Installation Instructions

Original Instructions

Allen-Bradley
by ROCKWELL AUTOMATION

Micro800 Programmable Controllers

Catalog Numbers 2080-LC10-12AWA, 2080-LC10-12QWB, 2080-LC10-12DWD, 2080-LC10-12QBB, 2080-LC20-20AWB, 2080-L20E-20AWB, 2080-LC20-20AWBR, 2080-L20E-20AWBR, 2080-LC20-20QWB, 2080-L20E-QWB, 2080-LC20-20QWBR, 2080-L20E-QWBR, 2080-LC20-20QBB, 2080-L20E-20QBB, 2080-LC20-20QBBK, 2080-L20E-20QBBK, 2080-LC20-20QBBR, 2080-L20E-20QBBR, 2080-L50E-24AWB, 2080-L50E-24QWB, 2080-L50E-24QVB, 2080-L50E-24QBB, 2080-L50E-48AWB, 2080-L50E-48QWB, 2080-L50E-48QWBK, 2080-L50E-48QVB, 2080-L50E-48QBB, 2080-L70E-24AWB, 2080-L70E-24QWB, 2080-L70E-24QWBK, 2080-L70E-24QWBN, 2080-L70E-24QWBNK, 2080-L70E-24QBB, 2080-L70E-24QBBK, 2080-L70E-24QBBN

Catalog numbers with the suffix 'K' are conformal coated and their specifications are the same as non-conformal coated catalogs.

Topic	Page
Summary of Changes	1
About the Controller	4
Mount the Controller	4
Wire the Controller	5
Specifications	7
Additional Resources	7

Summary of Changes

This publication contains the following new or updated information. This list includes substantive updates only and is not intended to reflect all changes.

Topic	Page
Added 2080-L20E catalogs	throughout
Updated table Controller Description	4

Rockwell Automation

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、稼動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.

DİKKAT: Bu ürünün kurulumu, yapılandırılması, işletilmesi veya bakımı öncesinde bu dokümanı ve bu ekipmanın kurulumu, yapılandırılması ve işletimi ile ilgili İlave 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, kullanma, 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 amacın dışında kullanılırsa, ekipman tarafından sağlanan koruma bozulabilir.

注意事項：在安裝、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。

包括安装、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, prawem 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.

OBS! 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, bediend of onderhoudt. Gebruikers moeten zich vertrouwd maken met de installatie en de bedradingsinstructies, 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.

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 based on the examples that are shown in this publication.

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 help prevent personal injury resulting from accessibility to live parts. The enclosure must have suitable flame-retardant properties to help 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, Rockwell Automation publication 1770-4.1, for more installation requirements.
- NEMA Standard 250 and EN/IEC 60529, as applicable, for explanations of the degrees of protection provided by different types of enclosure.

North American Hazardous Location Approval

The following information applies when operating this equipment in hazardous locations:	Informations sur l'utilisation de cet équipement en environnements dangereux:
Products marked "CL I, DIV 2, GP A, B, C, D" are suitable for use in Class I Division 2 Groups A, B, C, D, Hazardous Locations and nonhazardous locations only. Each product is supplied with markings on the rating nameplate indicating the hazardous location temperature code. When combining products within a system, the most adverse temperature code (lowest "T" number) may be used to help determine the overall temperature code of the system. Combinations of equipment in your system are subject to investigation by the local authority having jurisdiction at the time of installation.	Les produits marqués "CL I, DIV 2, GP A, B, C, D" ne conviennent qu'à une utilisation en environnements de Classe I Division 2 Groupes A, B, C, D dangereux et non dangereux. Chaque produit est livré avec des marquages sur sa plaque d'identification qui indiquent le code de température pour les environnements dangereux. Lorsque plusieurs produits sont combinés dans un système, le code de température le plus défavorable (code de température le plus faible) peut être utilisé pour déterminer le code de température global du système. Les combinaisons d'équipements dans le système sont sujettes à inspection par les autorités locales qualifiées au moment de l'installation
WARNING: EXPLOSION HAZARD • Do not disconnect equipment unless power has been removed or the area is known to be nonhazardous. • Do not disconnect connections to this equipment unless power has been removed or the area is known to be nonhazardous. Secure any external connections that mate to this equipment by using screws, sliding latches, threaded connectors, or other means provided with this product. • Substitution of components may impair suitability for Class I Division 2. • If this product contains batteries, they must be changed only in an area known to be nonhazardous.	**AVERTISSEMENT: RISQUE D'EXPLOSION** • Couper le courant ou s'assurer que l'environnement est classé non dangereux avant de débrancher l'équipement. • Couper le courant ou s'assurer que l'environnement est classé non dangereux avant de débrancher les connecteurs. Fixer tous les connecteurs externes reliés à cet équipement à l'aide de vis, loquets coulissants, connecteurs filetés ou autres moyens fournis avec ce produit. • La substitution de composants peut rendre cet équipement inadapté à une utilisation en environnement de Classe I Division 2. • S'assurer que l'environnement est classé non dangereux avant de changer les piles.

ATTENTION:

- Before installing, configuring, operating, or maintaining this product, read this document and the documents that are listed in the Additional Resources section for installing, configuring, or operating equipment. Users should familiarize themselves with installation and wiring instructions and requirements of all applicable codes, laws, and standards.
- Installation, adjustments, putting into service, use, assembly, disassembly, and maintenance shall be carried out by suitably trained personnel in accordance with applicable code of practice. In case of malfunction or damage, no attempts at repair should be made. The module should be returned to the manufacturer for repair. Do not dismantle the module.
- If this equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.
- This equipment is certified for use only within the surrounding air temperature range of 0…55 °C (32…131 °F) – Micro810® controllers or -20…+65 °C (-4…+149 °F) – Micro820®, Micro850®, Micro870® controllers. The equipment must not be used outside of this range.
- Solid-state equipment has operational characteristics differing from those of electromechanical equipment. Safety Guidelines for the Application, Installation, and Maintenance of Solid-state Control, publication SGI-1.1, available from your local Rockwell Automation sales office or online at rok.auto/literature describes some important differences between solid-state equipment and hard-wired electromechanical devices.
- To comply with the CE Low Voltage Directive (LVD), this equipment must be powered from a source compliant with the following: Safety Extra Low Voltage (SELV) or Protected Extra Low Voltage (PELV).
- To comply with UL restrictions, this equipment must be powered from a Class 2 or Limited Voltage Limited Current Source (LVLC).
- For Class I Division 2 applications, use only Class I Division 2 listed or recognized accessories and modules approved for use within the Micro800™ platform.
- Electrostatic discharge can damage semiconductor devices inside the module. Do not touch the connector pins or other sensitive areas.
- Do not remove the protective debris strips until after the controller and all other equipment in the panel near the module are mounted and wired. Remove strips before operating the controller. Failure to remove strips before operating can cause overheating.
- Be careful when stripping wires. Wire fragments that fall into the controller could cause damage. Once wiring is complete, make sure the controller is free of all metal fragments.

WARNING: Special Conditions for Safe Use

- This product must be installed in an enclosure. All cables connected to the product must remain in the enclosure or be protected by conduit or other means.
- The local programming terminal port is intended for temporary use only and must not be connected or disconnected unless the area is free of ignitable concentrations of flammable gases or vapors.
- Do not remove or replace lamps, fuses, plug-in modules (as applicable), and microSD™ cards, unless power has been disconnected or the area is known to be free of ignitable concentrations of flammable gases or vapors.
- All wiring must be in accordance with Class I Division 2 wiring methods of Article 501 of the National Electric Code and/or in accordance with Section 18-1J2 of the Canadian Electrical Code, and in accordance with the authority having jurisdiction.
- For applicable equipment (relay modules, and so on), exposure to some chemicals may degrade the sealing properties of materials used in the following devices: Relays, Epoxy. It is recommended that the user periodically inspect these devices for any degradation of properties and replace the module if degradation is found.
- Do not remove the Removable Terminal Block (RTB) until power is removed (for Micro820 controllers only).

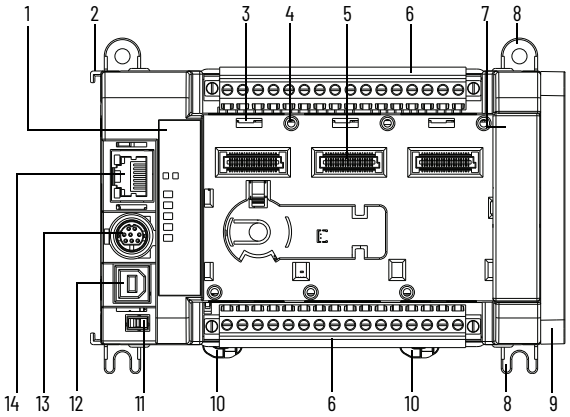
About the Controller

The Micro800 controller family is an expandable brick-style controller with embedded inputs and outputs. Some controllers can accommodate plug-in modules, expansion I/O modules, and 24V DC output power supplies.

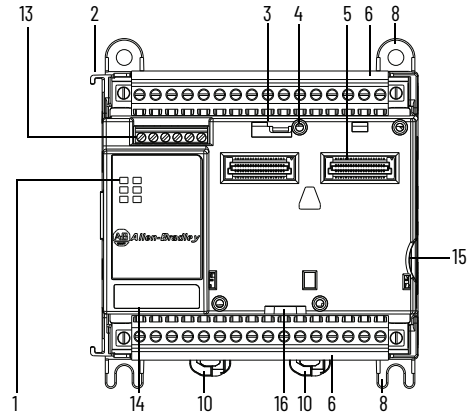
Catalog numbers with the suffix 'K' are conformal coated and their specifications are the same as non-conformal coated catalogs.

Controller Overview

Micro870 24-point controller shown



Micro820 20-point controller shown



Controller Description

	Description		Description
1	Status indicators	9	Expansion I/O slot cover[1]
2	Optional power supply slot	10	DIN rail mounting latch
3	Plug-in latch	11	Mode switch[2]
4	Plug-in screw hole	12	Type B connector USB port[2]
5	40-pin high-speed plug-in connector	13	RS232/RS485 non-isolated combo serial port
6	Removable I/O terminal block	14	RJ45 Ethernet connector (with embedded green and yellow LED indicators)
7	Right-side cover[2]	15	microSD card slot[3]
8	Mounting screw hole/mounting foot	16	Type C connector USB port[4]

(1) For Micro850 and Micro870 controllers only. For use when the controller does not have an expansion I/O module attached to it.
(2) For Micro850 and Micro870 controllers only.
(3) For Micro820 controllers only.
(4) For Micro820 (2080-L20E) controllers only.

Mount the Controller

Most applications require installation in an industrial enclosure to reduce the effects of electrical interference and environmental exposure. Locate your controller as far as possible from power lines, load lines, and other sources of electrical noise such as hard-contact switches, relays, and AC motor drives. For more information on proper grounding guidelines, see the Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1.

Controller Spacing

Maintain spacing from objects such as enclosure walls, wireways, and adjacent equipment. Allow 50.8 mm (2.0 in.) of space on all sides for adequate ventilation. If optional accessories/modules are attached, such as the power supply 2080-PS120-240VAC or expansion I/O modules, make sure that there is 50.8 mm (2.0 in.) of space on all sides after attaching the optional parts.

DIN Rail Mounting

The controller can be mounted using the following DIN rails: 35 x 7.5 mm and 35 x 15 mm (EN 50 022 - 35 x 7.5 and EN 50 022 - 35 x 15).

For environments with greater vibration and shock concerns, use the panel mounting method, instead of DIN rail mounting.

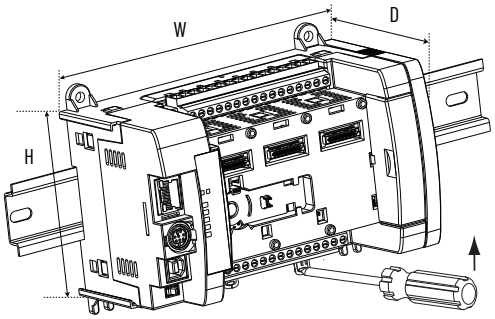
Before mounting the controller on a DIN rail, use a screwdriver in the DIN rail mounting latch and pry it downwards until it is in the unlatched position.

1. Hook the top of the DIN rail mounting area of the controller onto the DIN rail, and then press the bottom until the controller snaps onto the DIN rail.
2. Push the DIN rail mounting latch back into the latched position.

To remove your controller from the DIN rail, pry the DIN rail mounting latch downwards until it is in the unlatched position.

DIN Rail Mounting Dimensions

Micro870 24-point controller shown



Mounting dimensions exclude mounting feet and DIN rail latches.

Controller	H, mm (in.)	W, mm (in.)	D, mm (in.)
Micro810 12-point	91 (3.58)	75 (2.95)	59 (2.32)
Micro820 20-point	90 (3.54)	104 (4.09)	75 (2.95)
Micro850 24-point	90 (3.54)	158 (6.22)	80 (3.15)
Micro850 48-point	90 (3.54)	238 (9.37)	80 (3.15)
Micro870 24-point	90 (3.54)	157 (6.18)	80 (3.15)

Panel Mounting

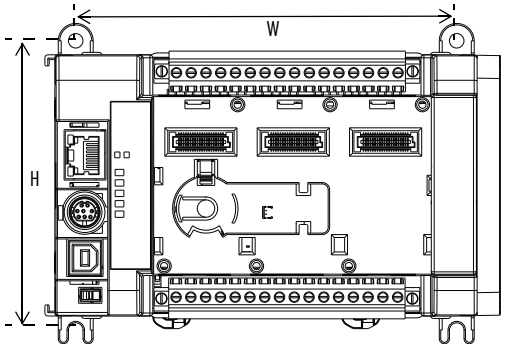
The preferred mounting method is to use four M4 (#8) screws per controller. Hole spacing tolerance: ±0.4 mm (0.016 in.).

Follow these steps to install your controller using mounting screws:

1. Place the controller against the panel where you are mounting it. Make sure that the controller is spaced properly.
2. Mark drilling holes through the mounting screw holes and mounting feet then remove the controller.
3. Drill the holes at the markings, then replace the controller and mount it. Leave the protective debris strip in place until you have finished wiring any other devices.

Panel Mounting Dimensions

Micro870 24-point controller shown



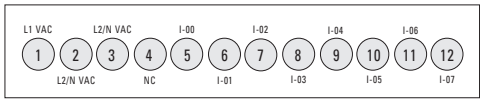
Panel Mounting Dimensions

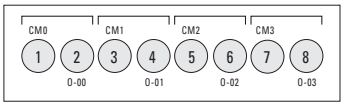
Controller	H, mm (in.)	W, mm (in.)
Micro810 12-point	100 (3.94)	63 (2.48)
Micro820 20-point	100 (3.94)	86 (3.39)
Micro850 24-point	100 (3.94)	131 (5.16)
Micro850 48-point	100 (3.94)	216 (8.5)
Micro870 24-point	100 (3.94)	131 (5.16)

Wire the Controller

2080-LC10-12AWA

Input Terminal Block

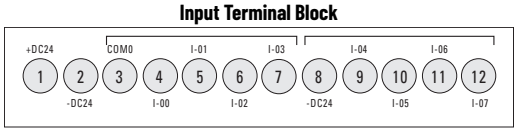


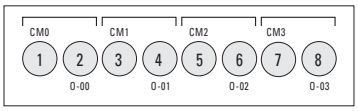


Output Terminal Block

2080-LC10-12QWB

Input Terminal Block

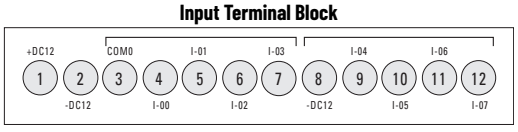


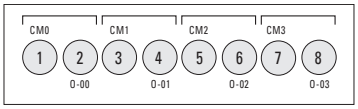


Output Terminal Block

2080-LC10-12DWD

Input Terminal Block

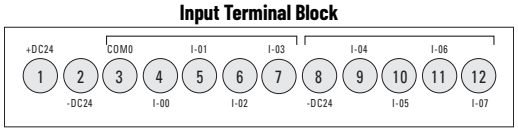


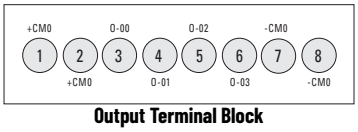


Output Terminal Block

2080-LC10-12QBB

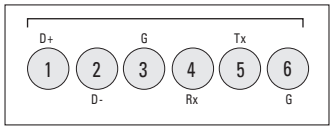
Input Terminal Block





Output Terminal Block

Serial Port Terminal Block



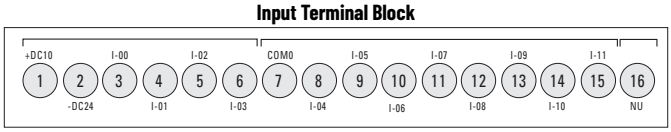
(View into terminal block)

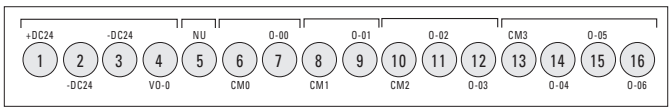
Pin 1	RS-485	Data +
Pin 2	RS-485	Data -
Pin 3	RS-485	Ground [a]
Pin 4	RS-232	Receive
Pin 5	RS-232	Transmit
Pin 6	RS-232	Ground [a]

(a) Non-isolated.

2080-LC20-20AWB / 2080-L20E-20AWB / 2080-LC20-20AWBR / 2080-L20E-20AWBR / 2080-LC20-20QWB / 2080-L20E-20QWB / 2080-LC20-20QWBR / 2080-L20E-20QWBR

Input Terminal Block



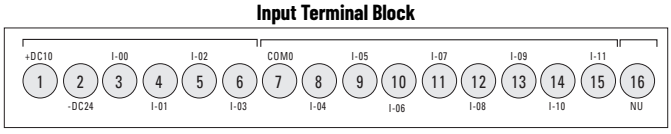


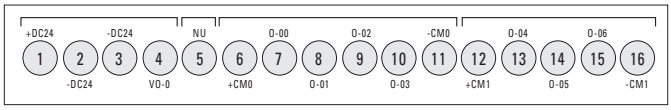
Output Terminal Block

ATTENTION: For 2080-LC20-20AWB/R and 2080-L20E-20AWB/R, inputs 0...3 are limited to 24V DC. All other inputs (4...11) are limited to 120V AC.

2080-LC20-20QBB / 2080-L20E-20QBB / 2080-LC20-20QBBK / 2080-L20E-20QBBK / 2080-LC20-20QBBR / 2080-L20E-20QBBR

Input Terminal Block

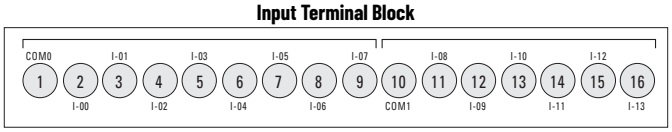


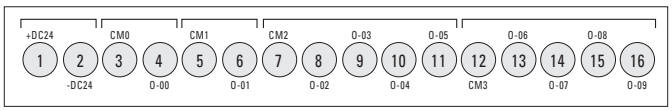


Output Terminal Block

2080-L50E-24QWB / 2080-L50E-24AWB / 2080-L70E-24AWB / 2080-L70E-24QWB / 2080-L70E-24QWBK / 2080-L70E-24QWBN / 2080-L70E-24QWBNK

Input Terminal Block



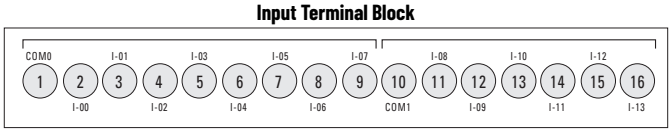


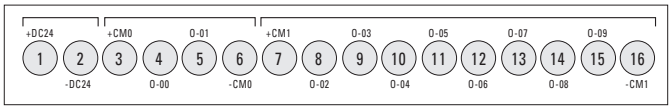
Output Terminal Block

ATTENTION: Do not ground the -DC24 terminal of the Micro870 controller. The Micro870 system is grounded either through the DIN Rail or the top-right panel mounting screw hole.

2080-L50E-24QVB / 2080-L50E-24QBB / 2080-L70E-24QBB / 2080-L70E-24QBBK / 2080-L70E-24QBBN

Input Terminal Block



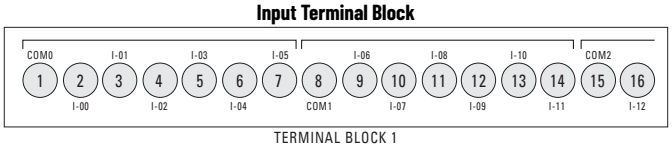


Output Terminal Block

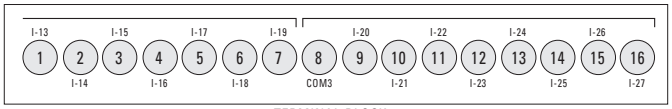
ATTENTION: Do not ground the -DC24 terminal of the Micro870 controller. The Micro870 system is grounded either through the DIN Rail or the top-right panel mounting screw hole.

2080-L50E-48AWB / 2080-L50E-48QWB / 2080-L50E-48QWBK

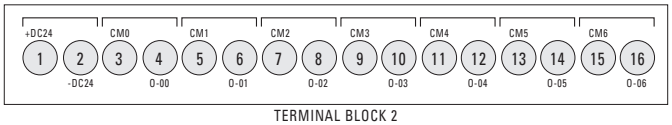
Input Terminal Block



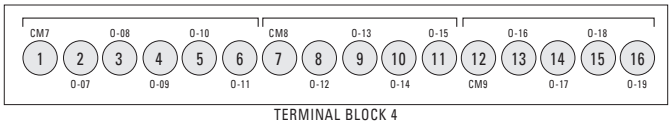
TERMINAL BLOCK 1



TERMINAL BLOCK 3



TERMINAL BLOCK 2

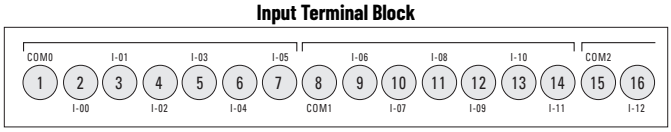


TERMINAL BLOCK 4

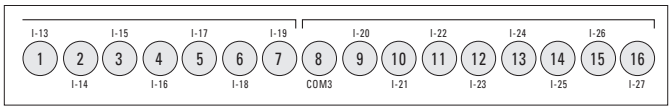
Output Terminal Block

2080-L50E-48QVB / 2080-L50E-48QBB

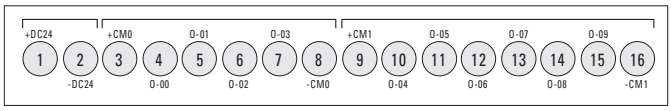
Input Terminal Block



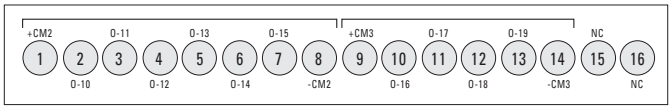
TERMINAL BLOCK 1



TERMINAL BLOCK 3



TERMINAL BLOCK 2



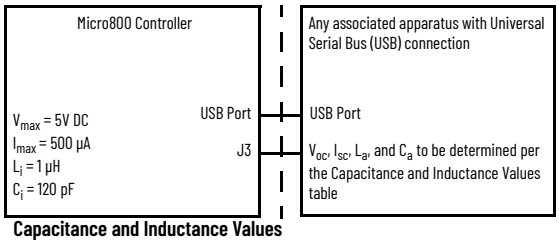
TERMINAL BLOCK 4

Output Terminal Block

Control Drawing for Class I Division 2 Applications

Hazardous Location
Class I Division 2, Groups A, B, C, and D

Non-hazardous Location



Capacitance and Inductance Values

Nonincendive Equipment		Associated Apparatus
V_{max} (or U_i)	≥	V_{oc} or V_t (or U_o)
I_{max} (or L_i)	≥	I_{sc} or I_t (or I_o)
$C_i + C_{cable}$	≤	C_a (or C_o)
$L_i + L_{cable}$	≤	L_a (or L_o)

Capacitance and Inductance of the field wiring from the nonincendive equipment to the associated apparatus shall be calculated and must be included in the system calculations as shown in the table above.

Where the cable capacitance and inductance per foot are not known, the following values shall be used: C_{cable} = 60 pF/ft, L_{cable} = 0.2 µH/ft.

Wiring method must be in accordance with ANSI/NFPA70.

Specifications

Fixed/Removable Terminal Blocks (RTB) and RS-232 Serial Port Ratings

Attribute	Wire Size
Wire size	**For Micro810 controller:** **Type** / **Min** / **Max** / **Description** Solid / 0.32 mm² (22 AWG) / 2.1 mm² (14 AWG) / Rated @ 90 °C (194 °F) insulation max Stranded / 0.32 mm² (22 AWG) / 1.3 mm² (16 AWG) / Rated @ 90 °C (194 °F) insulation max **For fixed terminal blocks:** **Type** / **Min** / **Max** / **Description** Solid / 0.14 mm² (26 AWG) / 2.5 mm² (14 AWG) / Rated @ 90 °C (194 °F) insulation max Stranded / 0.14 mm² (26 AWG) / 1.5 mm² (16 AWG) / Rated @ 90 °C (194 °F) insulation max **For removable terminal blocks:** **Type** / **Min** / **Max** / **Description** Solid / 0.2 mm² (24 AWG) / 2.5 mm² (14 AWG) / Rated @ 90 °C (194 °F) insulation max Stranded / 0.2 mm² (24 AWG) / 2.5 mm² (14 AWG) / Rated @ 90 °C (194 °F) insulation max **For RS-232 serial port:** **Type** / **Min** / **Max** / **Description** Solid / 0.14 mm² (26 AWG) / 1.5 mm² (16 AWG) / Rated @ 90 °C (194 °F) insulation max Stranded / 0.14 mm² (26 AWG) / 1.0 mm² (18 AWG) / Rated @ 90 °C (194 °F) insulation max
Wire type	Use copper conductors only
Wiring torque	**For Micro810 controller:** 1.085 N•m (9.6 lb•in) **For fixed and removable terminal blocks:** 0.5…0.6 N•m (4.4…5.3 lb•in) using a 0.6 x 3.5 mm screwdriver. Note: Use a handheld screwdriver to hold down the screws at the side. **For RS-232 serial port:** 0.22…0.25 N•m (1.95…2.21 lb•in) using 0.4 x 2.5 x 80 mm using a 2-component grip with non-slip grip screwdriver.

General Controller Specifications

Attribute	Micro810	Micro820	Micro850 24-point	Micro850 48-point	Micro870
Weight, approx.	297.5 g (10.49 oz.)	297.5 g (10.49 oz.)	437.7 g (15.44 oz.)	734.1 g (25.89 oz.)	439.2 g (15.49 oz.)

Environmental Specifications

Attribute	Micro810	Micro820	Micro850	Micro870
Temperature, surrounding air, max	55 °C (131 °F)	65 °C (149 °F)		

Additional Resources

These documents contain additional information concerning related products from Rockwell Automation. You can view or download publications at rok.auto/literature.

Resource	Description
Micro800 Programmable Controller Family Selection Guide, publication 2080-SG001	Provides information on how to select a Micro800 controller, plug-in modules, expansion I/O, and other accessories.
Micro800 Programmable Controllers Technical Data, publication 2080-TD001	Provides detailed specifications for Micro800 controllers, expansion I/O modules, plug-in modules, and accessories.
Micro810 Programmable Controllers User Manual, publication, 2080-UM001	Describes how to install, configure, use, and troubleshoot your Micro810 controller.
Micro820 Programmable Controllers User Manual, publication 2080-UM005	Describes how to install, configure, use, and troubleshoot your Micro820 controller.
Micro830, Micro850, and Micro870 Programmable Controllers User Manual, publication 2080-UM002	Describes how to install, configure, use, and troubleshoot your Micro830®, Micro850, and Micro870 controllers.
Micro800 Expansion I/O Modules User Manual, publication 2080-UM003	Describes how to install, configure, use, and troubleshoot your Micro800 expansion I/O modules.
Micro800 Plug-in Modules User Manual, publication 2080-UM004	Describes how to install, configure, use, and troubleshoot your Micro800 plug-in modules.
EtherNet/IP Network Devices User Manual, publication ENET-UM006	Describes how to configure and use EtherNet/IP™ devices to communicate on the EtherNet/IP network.
Ethernet Reference Manual, publication ENET-RM002	Describes basic Ethernet concepts, infrastructure components, and infrastructure features.
System Security Design Guidelines Reference Manual, publication SECURE-RM001	Provides guidance on how to conduct security assessments, implement Rockwell Automation products in a secure system, harden the control system, manage user access, and dispose of equipment.
UL Standards Listing for Industrial Control Products, publication CMPNTS-SR002	Assists original equipment manufacturers (OEMs) with construction of panels, to help ensure that they conform to the requirements of Underwriters Laboratories.
Industrial Components Preventive Maintenance, Enclosures, and Contact Ratings Specifications, publication IC-TD002	Provides a quick reference tool for Allen-Bradley industrial automation controls and assemblies.
Safety Guidelines for the Application, Installation, and Maintenance of Solid-state Control, publication SGI-1.1	Designed to harmonize with NEMA Standards Publication No. ICS 1.1-1987 and provides general guidelines for the application, installation, and maintenance of solid-state control in the form of individual devices or packaged assemblies incorporating solid-state components.
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.

Rockwell Automation Support

Use these resources to access support information.

Technical Support Center	Find help with how-to videos, FAQs, chat, user forums, Knowledgebase, and product notification updates.	rok.auto/support
Local Technical Support Phone Numbers	Locate the telephone number for your country.	rok.auto/phonesupport
Technical Documentation Center	Quickly access and download technical specifications, installation instructions, and user manuals.	rok.auto/techdocs
Literature Library	Find installation instructions, manuals, brochures, and technical data publications.	rok.auto/literature
Product Compatibility and Download Center (PCDC)	Download firmware, associated files (such as AOP, EDS, and DTM), and access product release notes.	rok.auto/pcdc

Documentation Feedback

Your comments help us serve your documentation needs better. If you have any suggestions on how to improve our content, complete the form at rok.auto/docfeedback.

Waste Electrical and Electronic Equipment (WEEE)

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

Rockwell Automation maintains current product environmental compliance information on its website at rok.auto/pec.

Rockwell Otomasyon Ticaret A.Ş. Kar Plaza İş Merkezi E Blok Kat:6 34752 İçerenköy, İstanbul, Tel: +90 (216) 5698400 EEE Yönetmeliğine Uygundur

Connect with us.

rockwellautomation.com — expanding **human possibility**®

AMERICAS: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000
EUROPE/MIDDLE EAST/AFRICA: Rockwell Automation NV, Pegasus Park, De Kleetlaan 12a, 1831 Diegem, Belgium, Tel: (32) 2663 0600
ASIA PACIFIC: Rockwell Automation SEA Pte Ltd, 2 Corporation Road, #04-05, Main Lobby, Corporation Place, Singapore 618494, Tel: (65) 6510 6608
UNITED KINGDOM: Rockwell Automation Ltd., Pitfield, Kiln Farm, Milton Keynes, MK11 3DR, United Kingdom, Tel: (44)(1908) 838-800

Allen-Bradley, expanding human possibility, FactoryTalk, Micro800, Micro810, Micro820, Micro830, Micro850, Micro870, Rockwell Automation, and TechConnect are trademarks of Rockwell Automation, Inc.

EtherNet/IP is a trademark of ODVA, Inc.

microSD is a trademark of SD-3C.

Trademarks not belonging to Rockwell Automation are property of their respective companies.

Publication 2080-IN013D-EN-P - September 2025 | Supersedes Publication 2080-IN013C-EN-P - March 2025 PN-751875

Copyright © 2025 Rockwell Automation, Inc. All rights reserved. Printed in Singapore.