

# Installation Instructions

Original Instructions



**Allen-Bradley**

by ROCKWELL AUTOMATION

## FLEX I/O 220V AC Digital Input and Output Modules

Catalog Numbers 1794-IM8, 1794-OM8

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### 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.

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**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:** Os usuários devem se familiarizar com as instruções de instalação e operação do equipamento que estão na seção Recursos adicionales antes de instalar, configurar, operar ou manter este produto. Os usuários devem se familiarizar com as instruções de instalação e operação 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。ユーザーは、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, 설치 및 표준에서 요구하는 사항에 대해 반드시 설치 및 배선 지침을 숙지해야 합니다.

설치, 조정, 가동, 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 eğitimli 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」章節中所有有關安裝、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 vhodné 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.

**OBBS!** Läs detta dokument samt dokumentet, som står listat i avsnittet Övriga resurser, om installation, konfiguration 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.

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**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, publication [1770-4.1](#), for additional installation requirements.
- NEMA Standard 250 and EN/IEC 60529, as applicable, for explanations of the degrees of protection provided by enclosures.

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**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.




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**ATTENTION: Special Conditions for Safe Use**

- 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, publication [1770-4.1](#), for more information.
- Do not remove or replace a terminal base unit while power is applied. Interruption of the backplane can result in unintentional operation or machine motion.
- Do not remove or replace an adapter while power is applied. Interruption of the backplane can result in unintentional operation or machine motion.
- If this equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.



**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.

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. 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.




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**ATTENTION:**

- This equipment is certified for use only within the surrounding air temperature range of 0...55 °C (32...131 °F). The equipment must not be used outside of this range.
- Use only a soft dry anti-static cloth to wipe down equipment. Do not use any cleaning agents.






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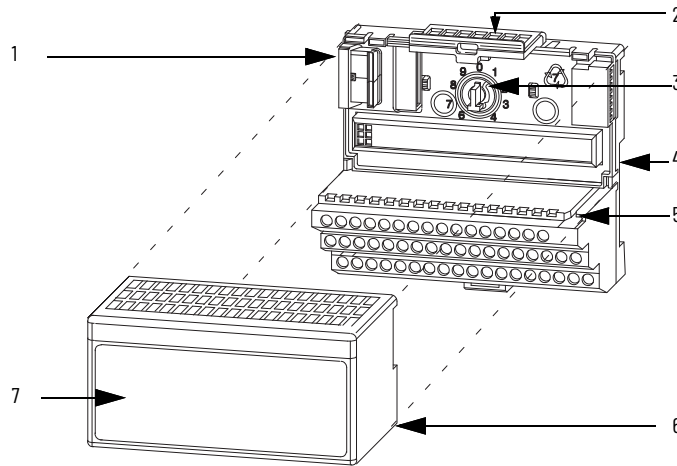
**WARNING:**

- When you insert or remove the module while backplane power is on, an electric arc can occur. This could cause an explosion in hazardous location installations.  
Be sure that power is removed or the area is nonhazardous before proceeding. Repeated electric arcing causes excessive wear to contacts on both the module and its mating connector. Worn contacts may create electrical resistance that can affect module operation.
  - If you insert or remove the module while backplane power is on, an electric arc can occur. This could cause an explosion in hazardous location installations.  
Be sure that power is removed or the area is nonhazardous before proceeding.
  - When used in a Class I Division 2, hazardous location, this equipment must be mounted in a suitable enclosure with proper wiring method that complies with the governing electrical codes.
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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.
<p>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.</p>	<p>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.</p>
<div style="display: flex; align-items: center;">  <div> <p><b>WARNING:</b> <b>Explosion Hazard –</b></p> <ul style="list-style-type: none"> <li>Do not disconnect equipment unless power has been removed or the area is known to be nonhazardous.</li> <li>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.</li> <li>Substitution of components may impair suitability for Class I Division 2.</li> </ul> </div> </div>	<div style="display: flex; align-items: center;">  <div> <p><b>AVERTISSEMENT:</b> <b>Risque d'Explosion –</b></p> <ul style="list-style-type: none"> <li>Couper le courant ou s'assurer que l'environnement est classé non dangereux avant de débrancher l'équipement.</li> <li>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.</li> <li>La substitution de composants peut rendre cet équipement inadapté à une utilisation en environnement de Classe I Division 2.</li> </ul> </div> </div>

## Install Your 220V AC Digital Input or Output Module



	Description		Description
1	Flexbus connector	5	Groove
2	Latching mechanism	6	Alignment bar
3	Keyswitch	7	Module
4	Terminal base		

The FLEX™ I/O 220V AC digital input and output modules mount on a FLEX I/O terminal base.

 **ATTENTION:** During mounting of all devices, be sure that all debris (metal chips, wire strands, and so on) is kept from falling into the module. Debris that falls into the module could cause damage on power-up.

- Rotate the keyswitch (1) on the terminal base (2) clockwise to position 8 as required for this type of module.
- Verify that the Flexbus connector (3) is pushed all the way to the left to connect with the adjacent terminal base/adaptor. **You cannot install the module unless the connector is fully extended.**

3. Make sure that the pins on the bottom of the module are straight so that they align properly with the connector in the terminal base.



**WARNING:** If you insert or remove the module while backplane power is on, an electric arc can occur. This could cause an explosion in hazardous location installations. Be sure that power is removed or the area is nonhazardous before proceeding.

4. Position the module (4) with its alignment bar (5) aligned with the groove (6) on the terminal base.
5. Press firmly and evenly to seat the module in the terminal base unit. The module is seated when the latching mechanism (7) is locked into the module.

### Connect Wiring for the 1794-IM8 and 1794-OM8 Module

1. Connect individual input or output wiring to numbered terminals on row (B) as indicated in [Table 1](#).
2. **1794-IM8** – Connect the associated 220V AC L1 power lead of the input device to the corresponding odd-numbered terminal (C-1, 3, 5, 7, 9, 11, 13, or 15) on row (C) for each input as indicated in [Table 1](#). The 220V L1 power terminals of row (C) are internally connected together.  
**1794-OM8** – Connect the associated 220V AC common L2 lead of the output device to the corresponding odd-numbered terminal (C-1, 3, 5, 7, 9, 11, 13, or 15) on row (C) as indicated in [Table 1](#). The 220V L2 commons of odd-numbered terminals on row (C) are internally connected together.
3. Connect 220V AC power (L1) to terminal 34 on the row (C).
4. Connect 220V AC common (L2) to terminal 16 on the row (B).
5. If daisy chaining L1 power to the next terminal base, connect a jumper from terminal 51 (220V AC L1) on this base unit to terminal 34 on the next base unit.
6. If continuing 220V AC common (L2) to the next base unit, connect a jumper from terminal 33 (220V common L2) on this base unit to terminal 16 on the next base unit.

Table 1 - Wiring Connections for 1794-IM8 and 1794-OM8

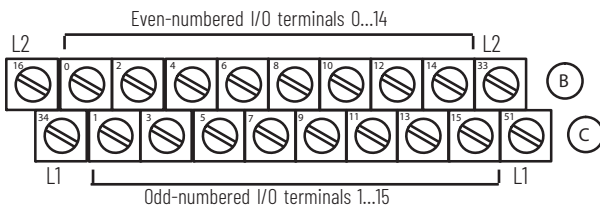
Input <sup>(1)</sup>	1794-IM8		Output	1794-OM8	
	Input Terminal	220V AC Supply <sup>(1)</sup>		Output Terminal	Common <sup>(2)</sup>
Input 0	B-0	C-1	Output 0	B-0	C-1
Input 1	B-2	C-3	Output 1	B-2	C-3
Input 2	B-4	C-5	Output 2	B-4	C-5
Input 3	B-6	C-7	Output 3	B-6	C-7
Input 4	B-8	C-9	Output 4	B-8	C-9
Input 5	B-10	C-11	Output 5	B-10	C-11
Input 6	B-12	C-13	Output 6	B-12	C-13
Input 7	B-14	C-15	Output 7	B-14	C-15

B = Even-numbered input terminals 0...14, AC common terminals 16 and 33  
 C = Power terminals C-34 and C-51, and odd-numbered input terminals 1...15 on row C

B = Even-numbered output terminals 0...14, AC common terminals 16 and 33  
 C = Power terminals C-34 and C-51, and odd-numbered output terminals 1...15 on row C

(1) C-1...C-15 (odd-numbered terminals) on the 1794-TBN terminal base are internally connected in the module to 220V AC power L1.  
 (2) C-1...C-15 (odd-numbered terminals) on the 1794-TBN terminal base are internally connected in the module to 220V AC common L2.

### 1794-TBN or 1794-TBNF Terminal Base Wiring for 1794-IM8 and 1794-OM8



L1 = 220V AC power - Connect to terminal C-34. (1794-TBN shown)  
 L2 = 220V AC common - Connect to terminal B-16.  
 Use B-33 and C-51 for daisy chaining to the next terminal base unit.

## Configure Your AC Module

Table 2 - Image Table Memory Map for the 1794-IM8 Module

<b>Dec</b>	<b>15</b>	<b>14</b>	<b>13</b>	<b>12</b>	<b>11</b>	<b>10</b>	<b>9</b>	<b>8</b>	<b>7</b>	<b>6</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>
<b>Oct</b>	<b>17</b>	<b>16</b>	<b>15</b>	<b>14</b>	<b>13</b>	<b>12</b>	<b>11</b>	<b>10</b>	<b>7</b>	<b>6</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>
Read	Not used - Set to 0								17	16	15	14	13	12	11	10
Write	Not used - Set to 0												Filter Time FT			
Where:	I = Input status FT = Input filter time															

Table 3 - Image Table Memory Map for the 1794-OM8 Module

<b>Dec</b>	<b>15</b>	<b>14</b>	<b>13</b>	<b>12</b>	<b>11</b>	<b>10</b>	<b>9</b>	<b>8</b>	<b>7</b>	<b>6</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>
<b>Oct</b>	<b>17</b>	<b>16</b>	<b>15</b>	<b>14</b>	<b>13</b>	<b>12</b>	<b>11</b>	<b>10</b>	<b>7</b>	<b>6</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>
Read	Not used - Set to 0								07	06	05	04	03	02	01	00
Write	Not used - Set to 0															
Where:	0 = Output															

### Set the Input Filter Time for the 1794-IM8 Module

To select your input filter time (FT) for channels 00...07, set the corresponding bits in the output image table (complementary word) for the module.

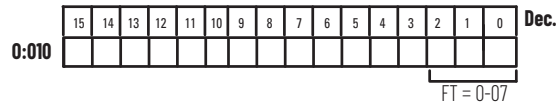
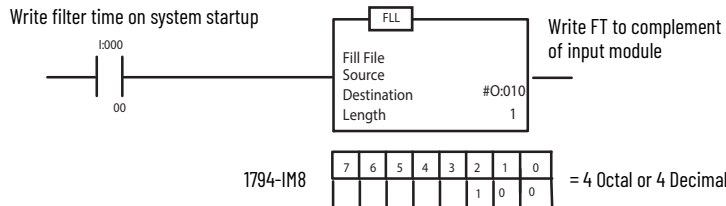


Table 4 - Input Filter Time for the 1794-IM8 Module

Bits			Description	Selected Filter Time	Maximum Filter Time (ms)	
02	01	00			Off-to-On	On-to-Off
Filter Time for Inputs 00...07						
0	0	0	Filter time 0 (default)	256 $\mu$ s	7.5	26.5
0	0	1	Filter time 1	512 $\mu$ s	8	27
0	1	0	Filter time 2	1 ms	9	28
0	1	1	Filter time 3	2 ms	10	29
1	0	0	Filter time 4	4 ms	12	31
1	0	1	Filter time 5	8 ms	16	35
1	1	0	Filter time 6	16 ms	24.5	44
1	1	1	Filter time 7	32 ms	42	60.5

For example, setting bits 00, 01, and 02 as shown sets the Off-to-On filter time for inputs 00...07 to 12 ms. For other settings, see [Table 4](#).



## Specifications

### Specifications - 220V AC Input Module 1794-IM8

Attribute	Value
Number of inputs	8, nonisolated
Recommended terminal base unit	1794-TBN, 1794-TBNK
Module mounting	See <a href="#">Figure 1 on page 9</a>
On-state voltage: Min Nom Max	159V AC 240V AC 264V AC
On-state current Min Max	5.27 mA 13.21 mA
Off-state voltage, max	40V AC
Off-state current, max	2.6 mA
Nominal input impedance	22.3 k $\Omega$
Nominal input current	12 mA @ 240V
Isolation voltage	250V (continuous), Basic Insulation Type, field side to backplane Type tested @ 1530V AC for 60 s No isolation between individual channels
Input filter time <sup>(1)</sup>	See <a href="#">Table 4 on page 6</a>
Flexbus current	30 mA @ 5V DC
Power dissipation, max	4.7 W @ 264V AC
Thermal dissipation, max	16.2 BTU/hr @ 264V AC

- (1) Input Off-to-On filter time is the time from a valid input signal to recognition by the module.  
Input On-to-Off filter time is the time from the input signal dropping below the valid level to recognition by the module.

### Specifications - 220V AC Output Module 1794-OM8

Attribute	Value
Number of outputs	8, nonisolated
Recommended terminal base unit	1794-TBN, 1794-TBNF, 1794-TBNK, 1794-TBNFK
Module mounting	See <a href="#">Figure 2 on page 9</a>
Output voltage Min Nom Max	159V AC 240V AC 264V AC
Output current rating	4.0 A (8 outputs @ 500 mA)
On-state current Min Max	50 mA per output 500 mA per output @ 55 °C (131 °F)
On-state voltage drop, max	1.5V AC @ 0.5 A
Surge current	7 A for 40 ms each, repeatable every 8 seconds
Off-state leakage, max	2.5 mA
Isolation voltage	250V (continuous), Basic Insulation Type, field side to backplane Type tested @ 1530V AC for 60 s No isolation between individual channels
Output signal delay <sup>(1)</sup> , max Off-to-On On-to-Off	1/2 cycle 1/2 cycle
Flexbus current	60 mA @ 5V DC
Power dissipation, max	5.0 W @ 0.5 A
Thermal dissipation, max	17.1 BTU/hr @ 0.5 A
Fusing (when using the 1794-TBNF <sup>(2)</sup> )	0.8 A, 250 slow-blow fuse (5 X 20 mm SAN-O M04-800 mA)

- (1) Delay time is the time from the receipt of an output On or Off command to the output actually turning On or Off.  
(2) Module outputs are not fused. We recommend that outputs be fused. If not using the 1794-TBNF, and fusing is desired, it must be provided externally.

**General Specifications**

Attribute	1794-IM8	1794-OM8
Terminal base screw torque	Determined by the installed terminal base	
Dimensions, approx. (H x W x D)	94 x 94 x 69 mm (3.7 x 3.7 x 2.7 in.)	
Indicators (field side indication)	8 yellow status indicators (customer device driven)	8 yellow status indicators (logic driven)
External AC power supply voltage, nom	240V AC	
External AC power supply input frequency	47...63 Hz	
External AC power voltage range	159...264V AC (See derating charts on <a href="#">page 9</a> )	
North American temperature code	T4	T4A
Keyswitch position	8	
Enclosure type rating	None (open-style)	
Weight, approx.	100 g (3.53 oz)	85 g (3.00 oz)
Wire size	Determined by the installed terminal base	
Wiring category <sup>(1)</sup>	2 - on signal ports	

(1) Use this Conductor Category information for planning conductor routing as described in the appropriate System Level Installation Manual. Also see the Industrial Automation Wiring and Grounding Guidelines, publication [1770-4.1](#) for more information.

**Environmental Specifications**

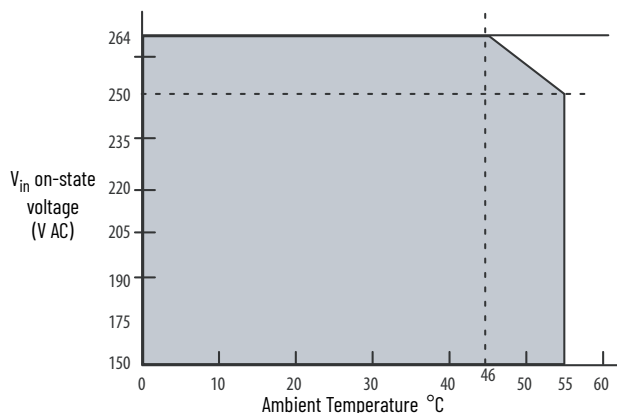
Attribute	Value
Operating temperature	IEC 60068-2-1 (Test Ad, operating cold), IEC 60068-2-2 (Test Bd, operating dry heat), IEC 60068-2-14 (Test Nb, operating thermal shock): 0...55 °C (32...131 °F)
Storage temperature	IEC 60068-2-1 (Test Ab, unpackaged nonoperating cold), IEC 60068-2-2 (Test Bb, unpackaged nonoperating dry heat), IEC 60068-2-14 (Test Na, unpackaged nonoperating thermal shock): -40...+85 °C (-40...+185 °F)
Temperature, surrounding air, max	55 °C (131 °F)
Relative humidity	IEC 60068-2-30 (Test Db, unpackaged damp heat): 5...95% noncondensing
Vibration	IEC60068-2-6 (Test Fc, operating): 5 g @ 10...500 Hz
Shock	IEC60068-2-27 (Test Ea, unpackaged shock): Operating 30 g Nonoperating 50 g
Emissions	IEC 61000-6-4
ESD immunity	IEC 61000-4-2: 6 kV contact discharges 8 kV air discharges
Radiated RF immunity	IEC 61000-4-3: 10V/m with 1 kHz sine-wave 80% AM from 80...2000 MHz 10V/m with 200 Hz 50% Pulse 100% AM @ 900 MHz 10V/m with 200 Hz 50% Pulse 100% AM @ 1890 MHz 1V/m with 1 kHz sine-wave 80% AM from 2000...2700 MHz
EFT/B immunity	IEC 61000-4-4: ±2 kV @ 5 kHz on power ports ±2 kV @ 5 kHz on signal ports
Surge transient immunity	IEC 61000-4-5: ±1 kV line-line(DM) and ±2 kV line-earth(CM) on signal ports
Conducted RF immunity	IEC 61000-4-6: 10V rms with 1 kHz sine-wave 80% AM from 150 kHz...80 MHz

**Certifications**

Certifications (when product is marked) <sup>(1)</sup>	Value
c-UL-us	UL Listed Industrial Control Equipment, certified for US and Canada. See UL File E322657. UL Listed for Class 1 Division 2 Group A,B,C,D Hazardous Locations, certified for U.S. and Canada. See UL File E334470.
UK and CE	UK Statutory Instrument 2016 No. 1091 and European Union 2014/30/EU EMC Directive, compliant with: EN 61326-1; Meas./Control/Lab., Industrial Requirements EN 61000-6-2; Industrial Immunity EN 61131-2; Programmable Controllers (Clause 8, Zone A & B) EN 61000-6-4; Industrial Emissions  UK Statutory Instrument 2016 No. 1101 and European Union 2014/35/EU LVD, compliant with: EN 61131-2; Programmable Controllers (Clause 11)  UK Statutory Instrument 2012 No. 3032 and European Union 2011/65/EU RoHS, compliant with: EN 63000; Technical documentation
KC	Korean Registration of Broadcasting and Communications Equipment, compliant with: Article 58-2 of Radio Waves Act, Clause 3
RCM	Australian Radiocommunications Act, compliant with: EN 61000-6-4; Industrial Emissions
Morocco	Arrêté ministériel n° 6404-15 du 29 ramadan 1436 Arrêté ministériel n° 6404-15 du 1 er muharram 1437

(1) See the Product Certification link at [rok.auto/certifications](http://rok.auto/certifications) for Declaration of Conformity, Certificates, and other certification details.

**Figure 1 - Derating Curve for 1794-IM8**

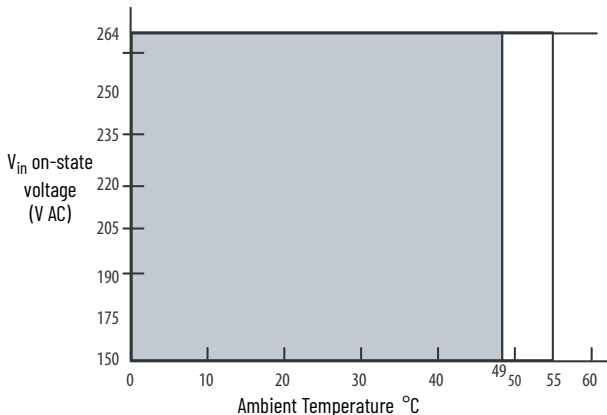


Voltage (max)	Temperature (max)
264	46
250	55

The area within the curve represents the safe operating range for the module under various conditions of user-supplied 220V AC supply voltages and ambient temperatures.

= All mounting positions (including normal horizontal, vertical, inverted horizontal) safe operating range

**Figure 2 - Derating Curve for 1794-OM8**



Mounting Position	Temperature (max)
Normal horizontal	55
Other mounting positions (including inverted horizontal, vertical)	49

The area within the curve represents the safe operating range for the module under various conditions of user-supplied 220V AC supply voltages and ambient temperatures.

= Normal mounting safe operating range. Includes

= Other mounting positions (including inverted horizontal, vertical) safe operating range

## Additional Resources

For more information on the products that are described in this publication, use these resources. You can view or download publications at [rok.auto/literature](http://rok.auto/literature).

Resource	Description
FLEX I/O and FLEX I/O-XT Selection Guide, publication <a href="#">1794-SG002</a>	A description and overview of the 1794 series FLEX I/O and FLEX I/O-XT™ modules and compatible control platforms.
Industrial Automation Wiring and Grounding Guidelines, publication <a href="#">1770-4.1</a>	Provides general guidelines for installing a Rockwell Automation industrial system.
Product Certifications website, <a href="http://rok.auto/certifications">rok.auto/certifications</a>	Provides declarations of conformity, certificates, and other certification details.

**Notes:**

## Rockwell Automation Support

Use these resources to access support information.

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

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## 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](http://rok.auto/pec).

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