



## Block I/O

### Use These Release Notes

Use these release notes with publications:

- 1791-6.5.7, Block I/O User Manual, Cat. No. 1791-IOBW/A and -IOVW/A
- 1791-6.5.2, Block I/O User Manual, Cat. No. 1791-IOBX/A and -IOVX/A.

### Updates to User Information

These release notes contain updates to user information, an update on fuse replacement information, output fusing information, wiring terminals information, hazardous locations equipment information, and specifications for the 1791-IOBW/A, -IOVW/A, -IOBX/A, and -IOVX/A modules. These updates are presented below.

### Important User Information

Because of the variety of uses for the products described in this publication, those responsible for the application and use of these products must satisfy themselves that all necessary steps have been taken to assure that each application and use meets all performance and safety requirements, including any applicable laws, regulations, codes and standards. In no event will Rockwell Automation be responsible or liable for indirect or consequential damage resulting from the use or application of these products.

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

Allen-Bradley publication SGI-1.1, *Safety Guidelines for the Application, Installation and Maintenance of Solid-State Control* (available from your local Rockwell Automation office), describes some important differences between solid-state equipment and electromechanical devices that should be taken into consideration when applying products such as those described in this publication.

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AB Parts

Throughout this publication, notes may be used to make you aware of safety considerations. The following annotations and their accompanying statements help you to identify a potential hazard, avoid a potential hazard, and recognize the consequences of a potential hazard:

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**WARNING**



Identifies information about practices or circumstances that can cause an explosion in a hazardous environment, which may lead to personal injury or death, property damage, or economic loss.

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**ATTENTION**



Identifies information about practices or circumstances that can lead to personal injury or death, property damage, or economic loss.

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**IMPORTANT**

Identifies information that is critical for successful application and understanding of the product.

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**ATTENTION****Environment and Enclosure**

This equipment is intended for use in a Pollution Degree 2 industrial environment, in overvoltage Category II applications (as defined in IEC publication 60664-1), at altitudes up to 2000 meters without derating.

This equipment is supplied as "open type" equipment. 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 interior of the enclosure must be accessible only by the use of a tool. Subsequent sections of this publication may contain additional information regarding specific enclosure type ratings that are required to comply with certain product safety certifications.

NOTE: See NEMA Standards publication 250 and IEC publication 60529, as applicable, for explanations of the degrees of protection provided by different types of enclosure. Also, see the appropriate sections in this publication, as well as the Allen-Bradley publication 1770-4.1 ("Industrial Automation Wiring and Grounding Guidelines"), for additional installation requirements pertaining to this equipment.

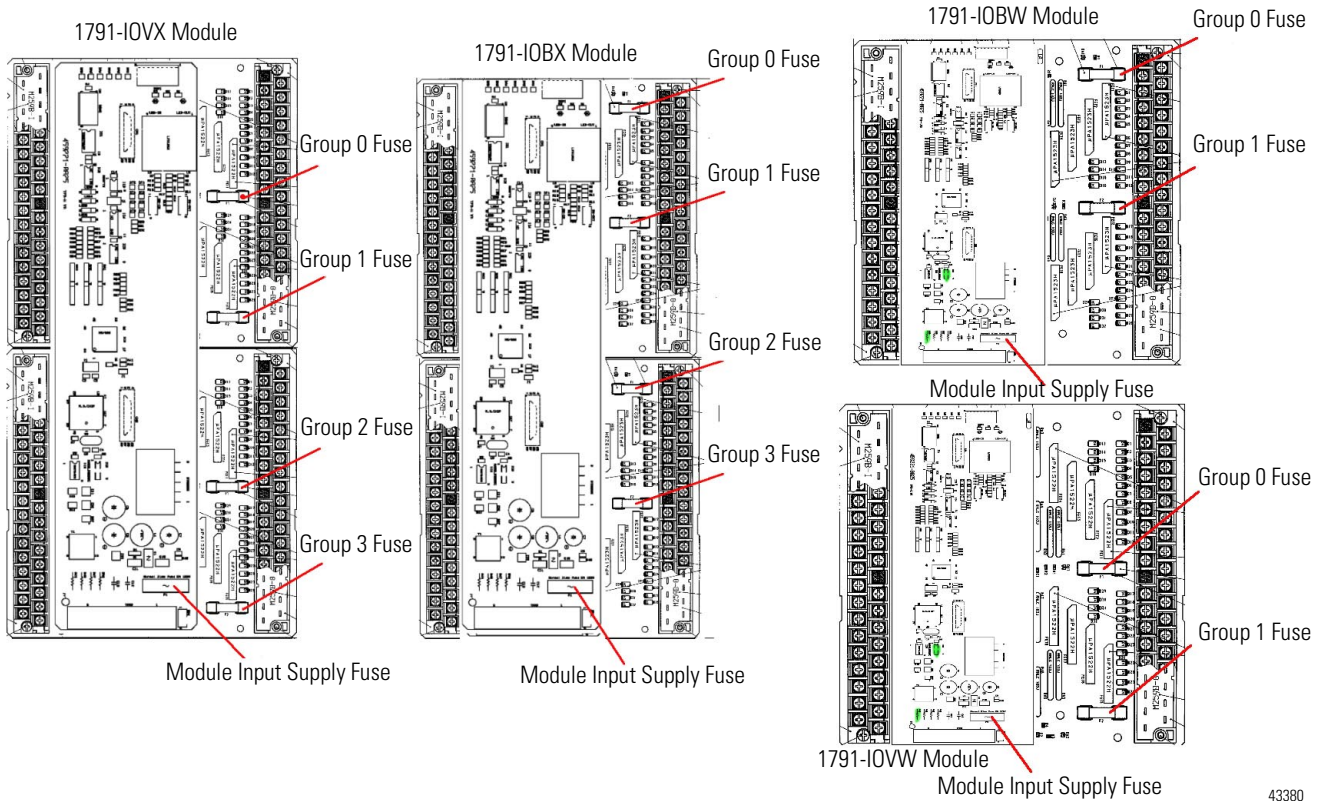
**ATTENTION****Preventing Electrostatic Discharge**

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.
- If available, use a static-safe workstation.
- When not in use, store the equipment in appropriate static-safe packaging.

## Replace a Fuse

The block I/O module has one fuse for each group of outputs and one fuse for the input supply. The fuse locations are shown in the illustration below.



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To replace a fuse, proceed as follows:

1. Remove power to the block I/O module at the module supply input terminal block and to the input and output groups.

### ATTENTION



Remove power to the block I/O module before attempting to replace the fuse.

- Failure to remove power from the block I/O module could cause injury or equipment damage due to possible unexpected operation.
- Failure to remove power from the module could cause module damage, degradation of performance or injury.

2. Remove the four screws securing the cover to the block I/O module and then remove the cover.
3. Locate and remove the blown fuse.

4. Replace the blown fuse.

The fuse for each output group is a 5A 250V slow blow (San-O Corporation UL TSC 5.0A). The fuse for the input supply is a 2A 250V slow blow (San-O Corporation MQ2 2.0A).

5. Replace the cover and secure it with the four screws removed in step 2.
6. Reapply power to the module and check for proper operation.

**IMPORTANT**

Removing the product cover will void the CSA certification and UL listing.

## Output Fusing

1791 high-density block I/O modules (64 and 128 input/output) have internal fusing. Each group of 16 output points is protected by a 5.0A fuse. These fuses protect the user output devices. They do not protect each individual output from overload. It is recommended that individual outputs be fused externally to protect the individual output circuit. See the following table for specifications.

Catalog Number	Voltage	Maximum Output Rating At: 30°C	Maximum Output Rating At: 60°C	Maximum Surge Current
1791-IOBX	24V dc	300mA per point 2.4A continuous per 16 point group maximum surge current 1.0A for 25ms 1 pulse per second maximum		
1791-IOVX	24V dc			

The recommended fuses are:

Fuse Size	Fuse Part Number	Fuse Current Rating
5x20mm	SAN-O-MQ4-400	400mA
0.25 in. x 1.25 in.	SAN-O-SS2-400	400mA

## Wiring Terminals

The remote I/O field wiring is made to two (1791-IOBW and -IOVW) or four (1791-IOBX and -IOVX) separate removable 37-pin terminal blocks mounted on the sides of the module. A separate nonremovable terminal block is provided for connection of the remote I/O link and external 24V dc power supply.

**IMPORTANT**

If multiple power sources are used, do not exceed the specified isolation voltage.

AB Parts

## Hazardous Location Updates

### The following information applies when operating this equipment in hazardous locations:

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.

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**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 only be changed in an area known to be nonhazardous.

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**WARNING**

When you connect or disconnect the wiring to the terminal blocks or remove the terminal blocks with field side power applied, an electrical 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.

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**WARNING**

If you change the switch setting for the cable termination to the Remote I/O connection with power applied to this module or any device on the network, an electrical 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.

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### Informations sur l' utilisation de cet équipement en environnements dangereux :

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.

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#### 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.
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## Specifications Updates

The following table lists specifications updates.

Enclosure Type	None (open-style)	
Wiring Arm Screw Torque Wire Type <sup>1</sup>	7-pound inches (0.8 Nm) Copper	
Certifications (When product is marked)	UL CSA CSA	UL Listed Industrial Control Equipment CSA Certified Process Control Equipment CSA Certified Process Control Equipment for Class I, Division 2 Group A,B,C,D Hazardous Locations
	CE <sup>2</sup>	European Union 89/336/EEC EMC Directive, compliant with: EN 50082-2; Industrial Immunity EN 61326; Meas./Control/Lab., Industrial Requirements EN 61000-6-2; Industrial Immunity EN 61000-6.4, Industrial Emissions
	C-Tick <sup>2</sup>	Australian Radiocommunications Act, compliant with: AS/NZS 2064; Industrial Emissions

1. One or two 14-22 AWG solid or stranded copper wires per terminal. Must be same size. Do not intermix solid and stranded wires. Use copper wire only.
2. See Product Certification link at [www.ab.com](http://www.ab.com) for Declarations of Conformity, Certificates, and other certification details.

[www.rockwellautomation.com](http://www.rockwellautomation.com)

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