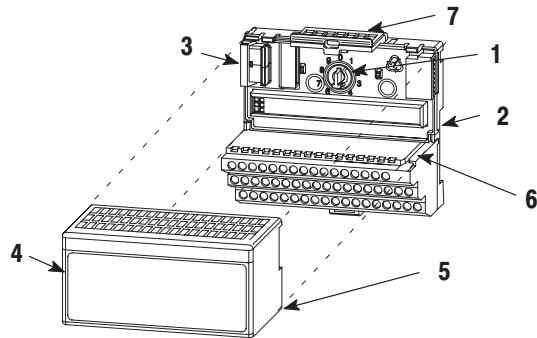




## Installation Instructions

### 24V dc FLEX I/O 2 Input Frequency Module

Cat. No. 1794-IJ2



#### Module Installation

This module mounts on a 1794 terminal base unit.

1. Rotate keyswitch (1) on terminal base unit (2) clockwise to position 1 as required for this type of module.
2. Make certain the flexbus connector (3) is pushed all the way to the left to connect with the neighboring 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 they will align properly with the connector in the terminal base unit.

#### WARNING



If you remove or insert the module while the backplane power is on, 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.

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.

### 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 Allen-Bradley 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, Allen-Bradley 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 Application, Installation, and Maintenance of Solid-State Control (available from your local Allen-Bradley 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.

Reproduction of the contents of this copyrighted publication, in whole or part, without written permission of Rockwell Automation, is prohibited.

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.

---

**ATTENTION**

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

---

**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 considered Group 1, Class A industrial equipment according to IEC/CISPR Publication 11. Without appropriate precautions, there may be potential difficulties ensuring electromagnetic compatibility in other environments due to conducted as well as radiated disturbance.

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.

See NEMA Standards publication 250 and IEC publication 60529, as applicable, for explanations of the degrees of protection provided by different types of enclosures. 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**

FLEX I/O is grounded through the DIN rail to chassis ground. Use zinc plated, yellow chromated steel DIN rail to assure proper grounding. Using other DIN rail materials (e.g. aluminum, plastic, etc.) which can corrode, oxidize or are poor conductors can result in improper or intermittent platform grounding.

**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, keep modules in appropriate static-safe packaging.

**ATTENTION**



Remove field-side power before removing or inserting this module. This module is designed so you can **remove and insert it under backplane power**. When you remove or insert a module with field-side power applied, an electrical arc may occur. An electrical arc can cause personal injury or property damage by:

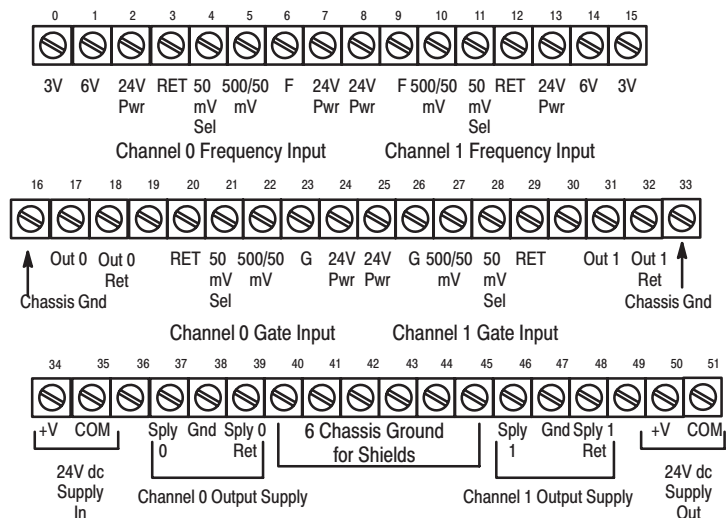
- sending an erroneous signal to your system's field devices causing unintended machine motion
- causing an explosion in a hazardous environment

Repeated electrical arcing causes excessive wear to contacts on both the module and its mating connector. Worn contacts may create electrical resistance.

**Connecting Wiring to a 1794-TB3G or 1794-TB3GS Terminal Base**

Connect wiring to the terminal base as shown below.

**Connections for Terminal Base 1794-TB3G shown**



**ATTENTION** To reduce susceptibility to noise, power analog modules and digital modules from separate power supplies. Do not exceed a length of 33 ft (10m) for dc power cabling.



**ATTENTION** Do not daisy chain power or ground from this terminal base unit to any ac or dc digital module terminal base units.



**ATTENTION** Total current draw through the terminal base unit is limited to 10A. Separate power connections to the terminal base unit may be necessary.



Refer to the table below for complete wiring connections for various input devices.

**Wiring Connections for Various Input Devices**

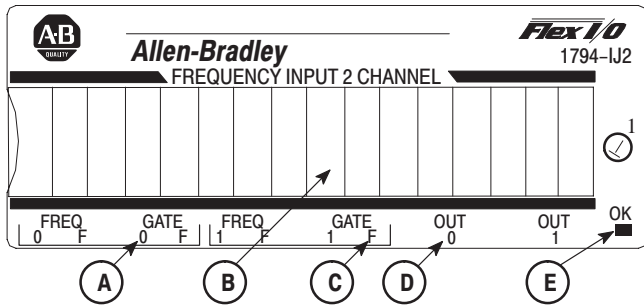
Types of Inputs	Channel 0 Terminals <sup>5</sup>			Channel 1 Terminals <sup>5</sup>			GND <sup>5</sup>
	Power	Input	RET <sup>6</sup>	Power	Input	RET <sup>6</sup>	
Frequency							
24V dc IEC1+ Proximity <sup>1, 2</sup>	7	6	3	8	9	12	
24V dc Contact Switch <sup>3</sup>	7	6	3	8	9	12	
500mV ac Magnetic Pickup	7	5	3	8	10	12	
50mV ac Magnetic Pickup <sup>4</sup>	7	5	3	8	10	12	
6V ac Vortex	2	1	3	13	14	12	
3V ac Vortex	2	0	3	13	15	12	
Gate							
24V dc IEC1+ Proximity <sup>1, 2</sup>	24	23	20	25	26	29	
24V dc Contact Switch <sup>3</sup>	24	23	20	25	26	29	
500mV ac Magnetic Pickup	24	22	20	25	27	29	
50mV ac Magnetic Pickup <sup>4</sup>	24	22	20	25	27	29	

- 1 As defined by standard IEC 1131-2.
- 2 RET not used on 2-wire devices
- 3 Add external resistor from 24V to F or G for wire-off detection (0.4mA)
- 4 Add a jumper between 50mV and RET(Frequency - channel 0 = 4 to 3; channel 1 = 11 to 12)  
(Gate - channel 0 = 21 to 20; channel 1 = 28 to 29)
- 5 Connect cable shields to GND terminals.
- 6 All 4 RET terminals (ch 0 and 1, Freq, Gate) are internally connected together.

Output Alarm Connections	Channel 0 Terminals <sup>1</sup>				Channel 1 Terminals <sup>1</sup>			
	Sply +	Sply RET	Out +	Out RET	Sply +	Sply RET	Out +	Out RET
Supply Connection	37	39			46	48		
Output Connection			17	18			31	32

1 Connect cable shields to GND connections.

**Indicators**



**A** = Input indicators for each input channel.

**B** = Insertable label for writing individual I/O assignments.

**C** = Wire-off Fault indicators for each input channel.

**D** = Output indicators for each output channel.

**E** = Power/status indicator – indicates power applied to module and status of module.

Indicator	Indication	Description
Input (0 or 1) Frequency or Gate	Off/Dark	Input turned off, input not used, wire disconnected
	On/Yellow	Input turned on
Fault (F) Frequency or Gate	Off/Dark	Wire connected, normal operation
	On/Red flash	Wire disconnected, fault condition (for IEC1+ proximity switch or switch contacts with shunt resistor)
Output Alarm (0 or 1)	Off/Dark	Output turned off
	On/Yellow	Output turned on (logic drive on)
Module Power (OK)	Off/Dark	24V power off, or 5V logic power problem
	Solid Green	Module OK, normal operating mode
	Solid Red	Module fault, outputs disabled

**Resolution and Accuracy**

±1Hz or ±0.1Hz (depending on frequency range bit setting), or ± accuracy specification listed below, whichever is greater.

Resolution percent is defined as:

$$\% \text{ resolution} = \frac{100}{\text{count frequency} \times \text{minimum frequency sample time}}$$

Accuracy percent is defined as:

$$\% \text{ accuracy} = 100 \left[ 1 - \frac{\frac{\text{minimum frequency sample time}}{2}}{\frac{\text{minimum frequency sample time}}{2} + \frac{1}{\text{count frequency}}} \right]$$

Minimum Freq. Sampling Time in ms	Accuracy					Resolution
	Sampling Accuracy	Time Base Accuracy	Worst Case Total Accuracy	Deviation in Hz Due to Total Accuracy		
				1.0-3276.7 Freq. Range	1-32767 Freq. Range	
2	±0.02%	±0.0225%	±0.0425%	±0.1-1.4Hz	±1-14Hz	0.01%
4	±0.01%	±0.0225%	±0.0325%	±0.1-1.1Hz	±1-11Hz	0.005%
5	±0.008%	±0.0225%	±0.0305%	±0.1-1.0Hz	±1-10Hz	0.004%
10	±0.004%	±0.0225%	±0.0265%	±0.1-0.9Hz	±1-9Hz	0.002%
20	±0.002%	±0.0225%	±0.0245%	±0.1-0.8Hz	±1-8Hz	0.001%
50	±0.0008%	±0.0225%	±0.0233%	±0.1-0.8Hz	±1-8Hz	0.0004%
100	±0.0004%	±0.0225%	±0.0229%	±0.1-0.8Hz	±1-8Hz	0.0002%
200	±0.0002%	±0.0225%	±0.0227%	±0.1-0.7Hz	±1-7Hz	0.0001%
500	±0.00008%	±0.0225%	±0.02258%	±0.1-0.7Hz	±1-7Hz	0.00004%
1000	±0.00004%	±0.0225%	±0.02254%	±0.1-0.7Hz	±1-7Hz	0.00002%



**Input Map**

Bit→	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word ↓	Read															
0	Frequency 0 – 32,767 – or – 0.0 – 3,276.7 Channel 0															
1	% Full Scale 0.0% to 3,276.7% Channel 0 – or – Acceleration –32,768 to +32,767 Channel 0															
2	Frequency 0 – 32,767 – or – 0.0 – 3,276.7 Channel 1															
3	% Full Scale 0.0% to 3,276.7% Channel 1 – or – Acceleration –32,768 to +32,767 Channel 1															
4	R	R	Direction 0-3 Ch 0	GS Ch 0	F/A Ch 0	WO Ch 0	MP A Ch 0	R	R	Direction 0-3 Ch 1	GS Ch 1	F/A Ch 1	WO Ch 1	MP A Ch 1		
5	Reserved											Diagnostic Status 0 – 15				
6	Reserved															

Where: GS = Gate state  
 F/A = Frequency/Accel alarm  
 WO = Wire-off alarm  
 MPA = Missing pulse alarm  
 R = Reserved

**Output Map**

Bit→	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Word↓	Write															
0	CF	SS M	FR Ch 0	Number Of Pulses To Terminate Sampling 0 - 7 Ch 0			MPM 0 - 3 Ch 0	R	LF	FR Ch 1	Number Of Pulses To Terminate Sampling 0 - 7 Ch 1			MPM 0-3 Ch 1		
1	Maximum Frequency 0 - 32,767 - or - 0.0 - 3,276.7 - or - Absolute Value of Acceleration 0 to 32,767 - Channel 0															
2	Frequency Scaling Divisor 0 - 255 Ch 0								Frequency Scaling Multiplier 0 - 255 Ch 0							
3	W OF G Ch 0	W O FF Ch 0	IGI Ch 0	IFI Ch 0	Minimum Frequency Sample Time 0 - 15 Ch 0			Init St Up Ch 0	ACT 0-3 Ch 0	F/A AS Ch 0	MPDM 0-3 Ch 0	WOFM 0-3 Ch 0				
4	Maximum Frequency 0 - 32,767 - or - 0.0 - 3,276.7 - or - Absolute Value of Acceleration 0 to 32,767 - Channel 1															
5	Frequency Scaling Divisor 0 - 255 Ch 1								Frequency Scaling Multiplier 0 - 255 Ch 1							
6	W OF G Ch 1	W O FF Ch 1	IGI Ch 1	IFI Ch 1	Minimum Frequency Sample Time 0 - 15 Ch 1			Init St Up Ch 1	ACT 0-3 Ch 1	F/A AS Ch 1	MPDM 0-3 Ch 1	WOFM 0-3 Ch 1				
7	Reserved															

Where:

- CF = Communication fault
- SSM = Safe state mode
- FR = Frequency Range
- MPM = Missing Pulse Multiplier
- LF = Local fault mode
- F/AAS = Frequency/Accel alarm select
- WOFF = Wire-off fault frequency
- WOFG = Wire-off fault gate
- WOFM = Wire-off fault mode
- IGI = Invert gate input
- IFI = Invert frequency input
- ACT = Acceleration Calculation Time
- MPDM = Missing pulse delay multiplier
- R = Reserved

**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, and 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.

**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.

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

Les produits marqués CL I, DIV 2, GP A, B, C, D ne conviennent que 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.

**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 1, Division 2.
- S'assurer que l'environnement est classé non dangereux avant de changer les piles.

**Specifications – 1794-IJ2 Frequency Input Module**

<b>Input Specifications</b>	
Number of Input Channels	2
Number of Inputs per Channel	2 – Frequency and Gate (gate used to establish direction)
Input Frequency (maximum)	1–32KHz w/Sine Wave; 1–32KHz w/Square Wave Input
Frequency Value (maximum)	32,767 or 3,276.7 (dependent on range)
Input Pulse Width (minimum)	20µs
Resolution/Accuracy	Refer to Resolution/Accuracy table
On-State Voltage (Minimum)	10V (24V IEC+1 proximity, encoder input or switch inputs)
On-State Voltage (Nominal) (selected by terminal base connections)	50mV ac, 28V ac peak – Extended Magnetic Pickup 500mV ac, 28V ac peak – Magnetic Pickup ≤ 3V – Vortex Flowmeter low range ≥ 6V – Vortex Flowmeter high range 24V dc IEC1+ Proximity or Encoder input 24V dc Contact Switch input
On-State Voltage (Maximum)	Limited to isolated 24V dc power supply maximum
On-State Current	Minimum Nominal Maximum
	2.0mA 9.0mA 10.0mA
Off-State Current	Minimum
	1.5mA into 24V dc IEC1+ Terminal
Off-State Voltage	Maximum
	5.0V dc on 24V dc IEC1+ Terminal
Wire-Off Detection	0.4mA for proximity, encoder, or contact switch with 50kΩ shunt resistor
Frequency Input Impedance	>5KΩ for 50mV extended magnetic pickup >5KΩ for 500mV magnetic pickup >10KΩ for 3V vortex flowmeter >10KΩ for 6V vortex flowmeter >2.5KΩ for 24V dc IEC1+ proximity or encoder input >2.5KΩ for 24V dc contact switch input
Gate Input Impedance	>5KΩ for 50mV extended magnetic pickup >5KΩ for 500mV magnetic pickup >2.5KΩ for 24V dc IEC1+ proximity or encoder input >2.5KΩ for 24V dc contact switch input

**Specifications continued on next page.**

**Specifications - 1794-IJ2 Frequency Input Module****Output Specifications (meets IEC 1A 24V dc output specification)**

Number of Outputs		2 isolated
Output Voltage Source		Customer supplied
Output Voltage	Minimum Nominal Maximum	10V dc 24V dc 31.2V dc
Off-State Voltage	Maximum	31.2V dc
On-State Current	Minimum Maximum	1.0mA per output minimum 1.0A per channel sourced out of module. <b>Current Limited:</b> All outputs can be on simultaneously without derating
Surge Current		2A for 50ms, repeatable every 2s
Off-State Leakage	Maximum	Less than 300 $\mu$ A @ 31.2V dc
On-State Voltage Drop	Maximum	0.9V dc @ 1A
Output Control		Outputs individually assignable to: Frequency, % Full Scale, or Acceleration Alarm
Output Switching Time		Triggered by frequency alarm or acceleration alarm Turn On: Less than 0.5ms Turn Off: Less than 1ms

**General Specifications**

Module Location		Cat. No. 1794-TB3G, -TB3GS Terminal Base
External dc Power		(Input for +5V logic and 24V dc/dc converters)
Supply Voltage		24V dc nominal
Voltage Range		19.2 to 31.2V dc (includes 5% ac ripple)
Supply Current		220mA @ 19.2V dc; 180mA @ 24V dc; 140mA @ 31.2V dc
Isolated dc Power		(Output to sensors and encoders)
Supply Voltage		24V dc nominal
Voltage Range		21.6 to 26.4V dc
Supply Current		0-60mA maximum @ 24V dc (4 devices @ 15mA = 60mA)
Peak ac Ripple		100mV maximum

Specifications continued on next page.

**Specifications – 1794-IJ2 Frequency Input Module**

Isolation Voltage	1250 Vrms/V ac between user Input (F & G) and System, user Output (0 & 1) and System, and user power and System 100% tested at 2121 Vdc for 1s. 500 Vrms/V ac between 4 user Inputs and 2 user Outputs, user Output 0 and Output 1 100% tested at 850 Vdc for 1s
Processing Time	≤ 4ms
Flexbus Current	30mA @ 5V dc
Power Dissipation	4.6W maximum @ 31.2V dc
Thermal Dissipation	Maximum 15.6 BTU/hr @ 31.2V dc
Indicators (field side driven, logic side indication)	1 green/red power/status indicator Input: 4 yellow status indicators (0, 1) – logic side 4 red wire-off indicators (F) – logic side Output: 2 yellow status indicators (0, 1) – logic side
Keyswitch Position	1
Dimensions Inches (Millimeters)	1.8H x 3.7W x 2.1D (45.7 x 94.0 x 53.3)
Environmental Conditions	
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) 32 to 131°F (0 to 55°C)
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 to 185°F (–40 to 85°C)
Relative Humidity	IEC 60068–2–30 (Test Db, Unpackaged, Nonoperating Damp Heat) 5 to 95%, noncondensing
Shock Operating Nonoperating	IEC 60068–2–27 (Test Ea, Unpackaged Shock) 30g 50g
Vibration	IEC 60068–2–6 (Test Fc, Operating) 5g @ 10–500Hz

**Specifications continued on next page.**

**Specifications - 1794-IJ2 Frequency Input Module**

ESD Immunity	IEC 61000-4-2 4kV contact discharges 8kV air discharges
Radiated RF Immunity	IEC 61000-4-3 10V/m with 1kHz sine-wave 80% AM from 30MHz to 1000MHz 10V/m with 200Hz 50% Pulse 100%AM at 900MHz
EFT/B Immunity	IEC 61000-4-4 $\pm 2$ kV @ 5kHz on signal ports
Surge Transient Immunity	IEC 61000-4-5 $\pm 1$ kV line-line (DM) and $\pm 2$ kV line-earth (CM) on signal ports
Conducted RF Immunity	IEC 61000-4-6 10V rms with 1kHz sine wave 80% AM from 150kHz to 80MHz
Emissions	CISPR 11 Group 1, Class A (with appropriate enclosure)
Enclosure Type Rating	None (open-style)
Input Conductors Wire Category Length (max)	Belden 8761 2 <sup>1</sup> 1000ft (304.8m)
Output Conductors Wire Category	Belden 8761 2 <sup>1</sup>

**Specifications continued on next page.**

**Specifications - 1794-IJ2 Frequency Input Module**

Agency Certification (when product is marked)	UL	UL Listed Industrial Control Equipment
	UL	UL Listed for Class I, Division 2 Group A, B, C and D Hazardous Locations
	CSA	CSA Certified Process Control Equipment for Class I, Division 2 Group A, B, C, D Hazardous Locations
	EEx <sup>2</sup>	European Union 94/9/EEC ATEX Directive, compliant with EN 50021; Potentially Explosive Atmospheres, Protection "n"
	CE <sup>2</sup>	European Union 89/336/EEC EMC Directive, compliant with: EN 50081-2, Industrial Emissions EN 50082-2, Industrial Immunity EN 61326, Meas./Control/Lab., Industrial Requirements EN 61000-6-2, Industrial Immunity
	C-Tick <sup>2</sup>	Australian Radiocommunications Act, compliant with AS/NZS 2064, Industrial Emissions
User Manual	Publication 1794-6.5.11	

<sup>1</sup> You use this conductor category information for planning conductor routing as described in the system level installation manual.  
<sup>2</sup> See the Product Certification link at [www.ab.com](http://www.ab.com) for Declarations of Conformity, Certificates and other certification details



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#### European Zone 2 Certification

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This equipment is intended for use in potentially explosive atmospheres as defined by European Union Directive 94/9/CE.

The LCIE (Laboratoire Central des Industries Electriques) certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of Category 3 equipment intended for use in potentially explosive atmospheres, given in Annex II to this Directive. The examination and test results are recorded in confidential report No. 28 682 010.

Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN 50021 (1999).

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#### **IMPORTANT**

Observe the following additional Zone 2 certification requirements:

- This equipment is not resistant to sunlight or other sources of UV radiation.
  - The secondary of a current transformer shall not be open-circuited.
  - The marking "ALCR" is to be considered "as applicable" to individual products.
  - Equipment of lesser Enclosure Type Rating must be installed in an enclosure providing at least IP54 protection when applied in Class I, Zone 2 environments.
  - This equipment must be powered by energy limited associated equipment as defined in EN 50021 when applied in Class I, Zone 2 environments.
  - Provision shall be made to prevent the rated voltage from being exceeded by transient disturbances of more than 40% when applied in Class I, Zone 2 environments.
-

### User Manuals

Thank you for purchasing this product. This product has a user manual associated with it. If you would like a manual, you can:

- download a free electronic version from the internet:  
[www.ab.com/manuals](http://www.ab.com/manuals) or  
[www.theautomationbookstore.com](http://www.theautomationbookstore.com)
- purchase a printed manual by:
  - contacting your local distributor or Rockwell Automation representative,
  - visiting [www.theautomationbookstore.com](http://www.theautomationbookstore.com) and placing your order
  - calling 1.800.963.9548 (USA/Canada) or 001.330.725.1574 (Outside USA/Canada)

The publication number of the user manual for your product is listed under “Specifications” in this installation instruction.

Allen-Bradley Replacements

Publication 1794-IN049B-EN-P - March 2002



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