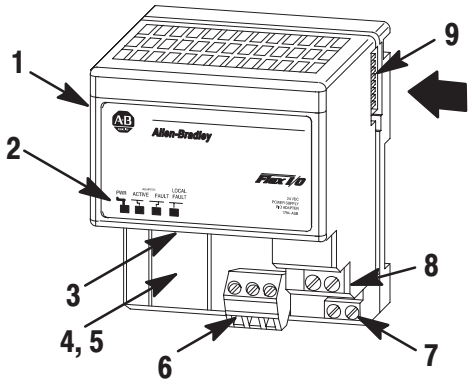
Installation Instructions

FLEX I/O
Remote I/O Adapter
(Cat. No. 1794-ASB Series E)



This Adapter module is shipped configured for Standard Addressing Mode. In Standard Addressing Mode, this module can be used as a replacement for 1794-ASB Series A or B remote I/O adapters.
Note: This adapter **cannot** be used with PLC-2 programmable controllers.This series E adapter can communicate with FLEX Integra analog modules and 32 point I/O modules.

Component Identification	
1	Remote I/O Adapter module
2	Indicators
3	Communication reset pushbutton (PRL)
4	Access door to switches S1 and S2
5	Switches S1 and S2 (behind access door)
6	Remote I/O cable connector
7	+24V dc connections
8	24V common connections
9	Flexbus connector

Publication 1794-IN046B–EN–P – January 2002

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.

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.

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.

Publication 1794-IN046B–EN–P – January 2002

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.

WARNING

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:

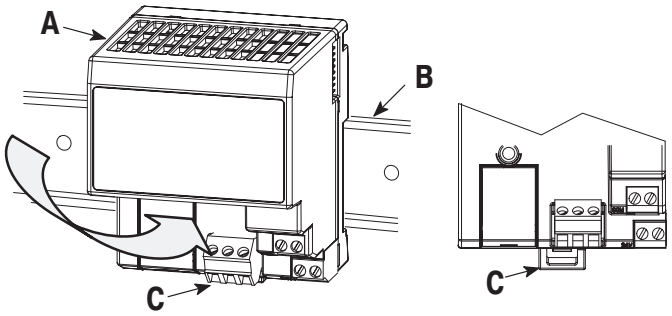
- sending an erroneous signal to your system's field devices causing unintended machine motion
- causing an explosion in a hazardous environment

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

Mounting on a DIN Rail before installing the terminal base units

WARNING

If you connect or disconnect wiring while the field side 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.



1. Hook the lip on the rear of the adapter **(A)** onto the top of the DIN rail **(B**), and rotate the adapter module onto the rail.
2. Press the adapter module down onto the DIN rail until flush. Locking tab **(C)** will snap into position and lock the adapter module to the DIN rail.
3. If the adapter module does not lock in place, use a screwdriver or similar device to move the locking tab down while pressing the adapter module flush onto the DIN rail and release the locking tab to lock the adapter module in place. If necessary, push up on the locking tab to lock.
4. Connect the adapter wiring as shown under “Wiring” later in this document.

NOTE: For Panel/Wall mounting, refer to publication 1794-5.13, “Panel Mounting Kit, Cat. No. 1794-NM1.”

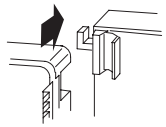
Mounting (or Replacing) the Adapter on an Existing System

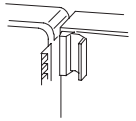
1. Remove the RIO plug-in connector from the front of the adapter.
2. Disconnect any wiring jumpered to the adjacent terminal base.
3. Using a screwdriver or similar tool, open the lock and remove the module from the base unit to which the adapter will be attached.
4. Push the flexbus connector toward the right side of the terminal base to unplug the backplane connection.

ATTENTION

Make certain that the flexbus connector is completely clear of the adapter. The slide must be completely to the right and the raised spot on the slide visible.

5. Release the locking tab and remove the adapter.
6. Before installing the new adapter, notice the notch on the right rear of the adapter. This notch accepts the hook on the terminal base unit. The notch is open at the bottom. The hook and adjacent connection point keep the terminal base and adapter tight together, reducing the possibility of a break in communication over the backplane.

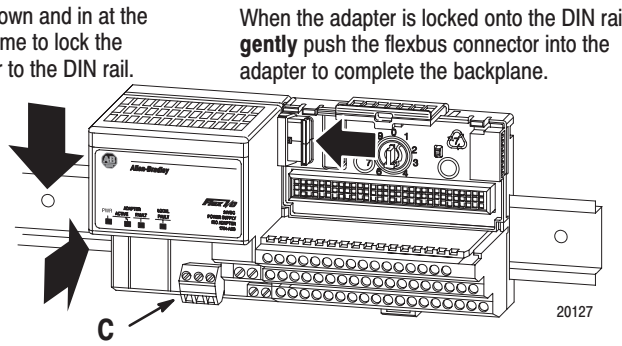




ATTENTION

Make certain that the hook on the terminal base is properly hooked into the adapter. Failure to lock the hook into the adjacent base/adapter can result in loss of communication on the backplane.

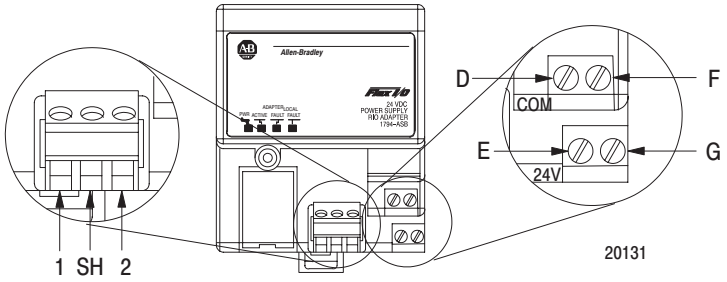
7. Complete the adapter mounting as shown below.



8. If the adapter module does not lock in place, use a screwdriver or similar device to move the locking tab **C** down while pressing the adapter module flush onto the DIN rail. Then release the locking tab to lock the adapter module in place. If necessary, push up on the locking tab to lock.

9. Reinstall the module into the terminal base unit.

Wiring



ATTENTION

When connecting wiring, torque terminal screws to 7-9 inch-pounds.

1. Connect the remote I/O cable to the removable remote I/O connector.

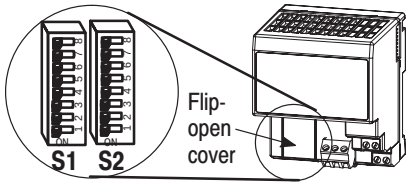
Connect	To
Blue Wire – RIO	1
Shield Wire – RIO	SH
Clear Wire – RIO	2

ATTENTION

If this is the last adapter, you must terminate the remote I/O link here. Use a terminating resistor connected across terminals 1 and 2. Refer to your processor manual for information on the size of the resistor.

2. Connect +V dc input to the left side of the lower connector, terminal **E**.
3. Connect –V common to the left side of the upper connector, terminal **D**.
4. Connections **G** and **F** are used to pass +V dc power (G) and –V common (F) to the next module in the series (if required).

Set the Adapter Switches



Set the Addressing Mode Switches

ATTENTION

Some switches on this adapter differ from the switches on previous versions. Make certain that you identify each switch before setting.

1. Lift the hinged switch cover on the front of the adapter to expose the switches.
2. Set the switches as shown below.
3. Cycle power to the adapter after setting the switches.

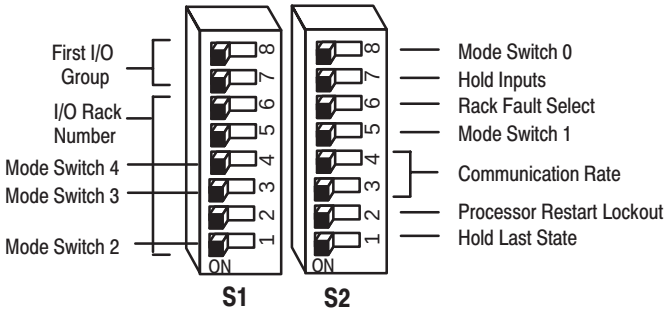
When Using this Addressing Mode	And	Mode 2 Switch 1-1	Mode 1 Switch 2-5	Mode 0 Switch 2-8
Standard (as shipped)	8 and/or 16- point modules	See note 1	ON	ON
Compact[2]	8-point modules	OFF	ON	OFF
	16-point modules	ON	ON	OFF
Complementary	See Complementary Rack Addressing Table, page 14			
Primary chassis	8-point modules	OFF	OFF	ON
Complementary chassis		ON	OFF	ON
Complementary	See Complementary Rack Addressing Table, page 14			
Primary chassis	16-point modules[3]	OFF	OFF	OFF
Complementary chassis		ON	OFF	OFF

1 In Standard mode, this switch retains its function as switch position 1 of rack addressing. In Standard mode, the module is functionally interchangeable with 1794-ASB Series A or B modules.
2 In compact mode, 32 point modules appear as 8 or 16 point modules.
3 When programming block transfers, address analog modules as module 0 if switch S1-1 is on; module 1 if switch S1-1 is off.

When Using this Addressing Mode	And	Mode Switch 0 S2–8	Mode Switch 1 S2-5	Mode Switch 2 S1–1	Mode Switch 3 S2–3	Mode Switch 4 S2-4
Standard – 32[1]	8, 16 and/or 32- point modules	ON	ON	See note 1	OFF	OFF
Complementary–32 Primary chassis[2]	8, 16 and/or 32- point modules	ON	OFF	OFF	OFF	OFF
Complementary–32 Complementary chassis[2]		OFF	OFF	ON	OFF	OFF

[1] In Standard – 32 mode, any module in the chassis occupies 32 input points and 32 output points in the Input/Output data table.

[2] In Complementary – 32 mode, any module in the chassis occupies 32 input points **or** 32 output points in the Input/Output data table. If using an 8 point or 16 point module, the unused points in the data table are zeroed out.



First I/O Group			I/O Rack Number
S1–8	**S1–7**	**I/O group**	**S1–6 thru S1–1**
ON	ON	0 (1st)	Refer to the tables on page 9 or 10
OFF	ON	2 (2nd)	
ON	OFF	4 (3rd)	
OFF	OFF	6 (4th)	

S2–8	Mode Switch 0
Refer to Mode Selection Switches, page 9	

S2–7	Hold Inputs	S2–6	Rack Fault Select
ON	Hold Inputs	ON	Disabled (default)
OFF	Reset Inputs	OFF	Enabled

S2–5	Mode Switch 1
Refer to Mode Selection Switches, page 9	

Communication Rate			Processor Restart Lockout		Hold Last State	
S2–4	**S2–3**	**Bits/s**	**S2–2**	**Processor:**	**S2–1**	**Processor will:**
ON	ON	57.6k	ON	Restart	ON	Reset Outputs
OFF	ON	115.2k	OFF	Locked Out	OFF	Hold last state
ON	OFF	230.4k				
OFF	OFF	Auto Baud	Used only with 32 point mode.[1]			

[1] Cycle power to the 1794-ASB/E when the baud rate is changed in the scanner.

I/O Rack Number Switch Settings

Rack Number				S1 Switch Position					
1747-SN	PLC-5	PLC-5/250	PLC-3	6	5	4	3	2	1
Rack 0	Not Valid	Rack 0	Rack 0	ON	ON	ON	ON	ON	ON
Rack 1	Rack 1	Rack 1	Rack 1	OFF	ON	ON	ON	ON	ON
Rack 2	Rack 2	Rack 2	Rack 2	ON	OFF	ON	ON	ON	ON
Rack 3	Rack 3	Rack 3	Rack 3	OFF	OFF	ON	ON	ON	ON
	Rack 4	Rack 4	Rack 4	ON	ON	OFF	ON	ON	ON
	Rack 5	Rack 5	Rack 5	OFF	ON	OFF	ON	ON	ON
	Rack 6	Rack 6	Rack 6	ON	OFF	OFF	ON	ON	ON
	Rack 7	Rack 7	Rack 7	OFF	OFF	OFF	ON	ON	ON
	Rack 10	Rack 10	Rack 10	ON	ON	ON	OFF	ON	ON
	Rack 11	Rack 11	Rack 11	OFF	ON	ON	OFF	ON	ON
	Rack 12	Rack 12	Rack 12	ON	OFF	ON	OFF	ON	ON
	Rack 13	Rack 13	Rack 13	OFF	OFF	ON	OFF	ON	ON
	Rack 14	Rack 14	Rack 14	ON	ON	OFF	OFF	ON	ON
	Rack 15	Rack 15	Rack 15	OFF	ON	OFF	OFF	ON	ON
	Rack 16	Rack 16	Rack 16	ON	OFF	OFF	OFF	ON	ON
	Rack 17	Rack 17	Rack 17	OFF	OFF	OFF	OFF	ON	ON
	Rack 20	Rack 20	Rack 20	ON	ON	ON	ON	OFF	ON
	Rack 21	Rack 21	Rack 21	OFF	ON	ON	ON	OFF	ON
	Rack 22	Rack 22	Rack 22	ON	OFF	ON	ON	OFF	ON
	Rack 23	Rack 23	Rack 23	OFF	OFF	ON	ON	OFF	ON
	Rack 24	Rack 24	Rack 24	ON	ON	OFF	ON	OFF	ON
	Rack 25	Rack 25	Rack 25	OFF	ON	OFF	ON	OFF	ON
	Rack 26	Rack 26	Rack 26	ON	OFF	OFF	ON	OFF	ON
	Rack 27	Rack 27	Rack 27	OFF	OFF	OFF	ON	OFF	ON
		Rack 30	Rack 30	ON	ON	ON	OFF	OFF	ON
		Rack 31	Rack 31	OFF	ON	ON	OFF	OFF	ON
		Rack 32	Rack 32	ON	OFF	ON	OFF	OFF	ON
		Rack 33	Rack 33	OFF	OFF	ON	OFF	OFF	ON
		Rack 34	Rack 34	ON	ON	OFF	OFF	OFF	ON
		Rack 35	Rack 35	OFF	ON	OFF	OFF	OFF	ON
		Rack 36	Rack 36	ON	OFF	OFF	OFF	OFF	ON
		Rack 37	Rack 37	OFF	OFF	OFF	OFF	OFF	ON
See note 1 – Rack addresses 40 thru 76 are only available in Standard mode.			Rack 40	ON	ON	ON	ON	ON	OFF
			Rack 41	OFF	ON	ON	ON	ON	OFF
			Rack 42	ON	OFF	ON	ON	ON	OFF
			Rack 43	OFF	OFF	ON	ON	ON	OFF
			Rack 44	ON	ON	OFF	ON	ON	OFF
			Rack 45	OFF	ON	OFF	ON	ON	OFF
			Rack 46	ON	OFF	OFF	ON	ON	OFF
			Rack 47	OFF	OFF	OFF	ON	ON	OFF
			Rack 50	ON	ON	ON	OFF	ON	OFF
			Rack 51	OFF	ON	ON	OFF	ON	OFF

Rack Number				S1 Switch Position					
1747-SN	PLC-5	PLC-5/250	PLC-3	6	5	4	3	2	1
			Rack 52	ON	OFF	ON	OFF	ON	OFF
			Rack 53	OFF	OFF	ON	OFF	ON	OFF
			Rack 54	ON	ON	OFF	OFF	ON	OFF
			Rack 55	OFF	ON	OFF	OFF	ON	OFF
			Rack 56	ON	OFF	OFF	OFF	ON	OFF
			Rack 57	OFF	OFF	OFF	OFF	ON	OFF
			Rack 60	ON	ON	ON	ON	OFF	OFF
			Rack 61	OFF	ON	ON	ON	OFF	OFF
			Rack 62	ON	OFF	ON	ON	OFF	OFF
			Rack 63	OFF	OFF	ON	ON	OFF	OFF
			Rack 64	ON	ON	OFF	ON	OFF	OFF
			Rack 65	OFF	ON	OFF	ON	OFF	OFF
			Rack 66	ON	OFF	OFF	ON	OFF	OFF
			Rack 67	OFF	OFF	OFF	ON	OFF	OFF
			Rack 70	ON	ON	ON	OFF	OFF	OFF
			Rack 71	OFF	ON	ON	OFF	OFF	OFF
			Rack 72	ON	OFF	ON	OFF	OFF	OFF
			Rack 73	OFF	OFF	ON	OFF	OFF	OFF
			Rack 74	ON	ON	OFF	OFF	OFF	OFF
			Rack 75	OFF	ON	OFF	OFF	OFF	OFF
			Rack 76	ON	OFF	OFF	OFF	OFF	OFF
			Not Valid	OFF	OFF	OFF	OFF	OFF	OFF

Rack address 77 is an illegal configuration.
PLC-5/11 processors can scan rack 03.
PLC-5/15 and PLC-5/20 processors can scan racks 01–03.
PLC-5/25 and PLC-5/30 processors can scan racks 01–07.
PLC-5/40 and PLC-5/40L processors can scan racks 01–17.
PLC-5/60 and PLC-5/60L processors can scan racks 01–27.
PLC-5/80 processors can scan racks 01–27.
PLC-5/250 processors can scan racks 00–37.
Note 1 – Rack switch 1–1 is used to set a mode in this adapter. As a result. rack addresses from 40 to 76 are only available in Standard mode.

Complementary I/O Rack Addressing for PLC-5 Processors (refer to your processor or scanner documentation for all other processors)

Primary Rack

Rack Number		S1 Switch Position					
1747-SN	PLC–5	6	5	4	3	2	1
Rack 0	Not Valid	ON	ON	ON	ON	ON	OFF
Rack 1	Rack 1	OFF	ON	ON	ON	ON	OFF
Rack 2	Rack 2	ON	OFF	ON	ON	ON	OFF
Rack 3	Rack 3	OFF	OFF	ON	ON	ON	OFF
	Rack 4	ON	ON	OFF	ON	ON	OFF
	Rack 5	OFF	ON	OFF	ON	ON	OFF
	Rack 6	ON	OFF	OFF	ON	ON	OFF
	Rack 7	OFF	OFF	OFF	ON	ON	OFF

Complementary Rack

Rack Number		S1 Switch Position					
1747-SN	PLC–5	6	5	4	3	2	1
Rack 0	Not Valid	ON	ON	ON	OFF	ON	ON
Rack 1	Rack 1	OFF	ON	ON	OFF	ON	ON
Rack 2	Rack 2	ON	OFF	ON	OFF	ON	ON
Rack 3	Rack 3	OFF	OFF	ON	OFF	ON	ON
	Rack 4	ON	ON	OFF	OFF	ON	ON
	Rack 5	OFF	ON	OFF	OFF	ON	ON
	Rack 6	ON	OFF	OFF	OFF	ON	ON
	Rack 7	OFF	OFF	OFF	OFF	ON	ON

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 systéme, le code de température le plus défavorable (code de température le plus faible) peut eatre utilisé pour déterminer le code de température global du systéme. Les combinaisons d'equipements dans le systéme 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.

1794-ASB Series E Specifications

Note: This adapter cannot be used with PLC-2 processors This adapter can communicate with FLEX Integra analog modules and 32–point FLEX modules.

I/O Capacity	8 modules
Power Supply	**Note:** In order to comply with CE Low Voltage Directives, you must use a Safety Extra Low Voltage (SELV) or a Protected Extra Low Voltage (PELV) power supply to power this adapter.
Input Voltage Rating	24V dc nominal
Input Voltage Range	11.0V to 31.2V dc (includes 5% ac ripple)
Communication Rate	57.6k bps 115.2k bps 230.4k bps
Indicators	Power – green Adapter Active – green Adapter fault – red Local fault – red
Flexbus Output Current	640mA maximum
Isolation Voltage	500V ac between user power and flexbus
Power Consumption	330mA at 24V; 730mA at 12V
Power Dissipation	4.6W maximum @ 31.2V dc
Thermal Dissipation	15.7 BTU/hr @ 31.2V dc
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

Specifications continued on next page

1794-ASB Series E Specifications

Shock Operating Nonoperating	IEC 60068–2–27 (Test Ea, Unpackaged Shock) 30g 50g
Vibration	IEC 60068–2–6 (Test Fc, Operating) 5g @ 10–500Hz
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 2000MHz
EFT/B Immunity	IEC 61000–4–4 ±4kV @ 2.5kHz on power ports ±2kV @ 5kHz on communications ports
Surge Transient Immunity	IEC 61000–4–5 ±1kV line–line (DM) and ±2kV 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)
Remote I/O Cable	Belden 9463 or equivalent as specified in publication ICCG-2.2
Remote I/O Connector Plug	Part Number 942029–03
Power Conductors Wire Size Category	 12 gauge ($4mm^2$) maximum sokid or stranded wire rated at 75°C or greater 3/64 inch (1.2mm) insulation max. 2[1]

Specifications continued on next page

1794-ASB Series E Specifications

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[2]	European Union 94/9/EEC EMC Directive, compliant with: EN 50021; Potentially Explosive Atmospheres, Protection "n"
	CE[2]	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[2]	Australian Radiocommunications Act,compliant with: AS/NZS 2064, Industrial Emissions
User Manual	Publication 1794-UM009	

1 Use this conductor category information for planning conductor routing. Refer to publication 1770-4.1, "Industrial Automation Wiring and Grounding Guidelines."

2 See the Product Certification link at www.ab.com for Declarations of Conformity, Certificates and other certification details

European Zone 2 Certification

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

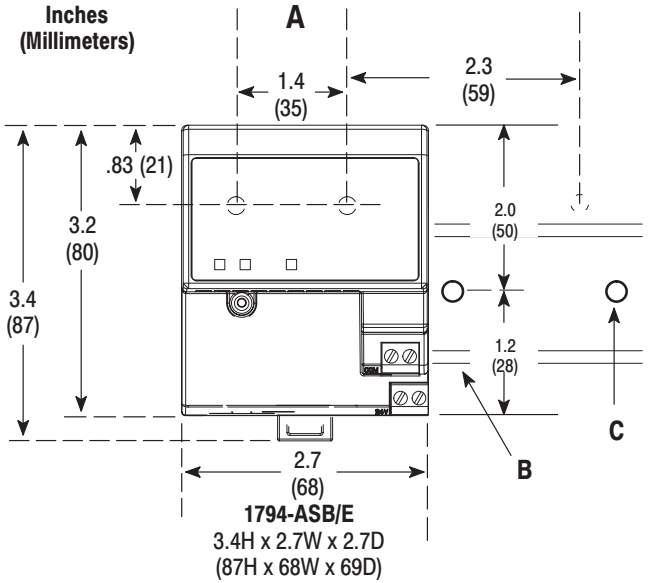
The LCIE (Laboratoire Central des Industries Electriques) certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of Category 3 equipment intended for use in potentially explosive atmospheres, given in Annex II to 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).

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.

Mounting Dimensions



A = Mounting hole dimensions for optional mounting kit
B = DIN rail
C = Secure DIN rail approximately every 200mm

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` or `www.theautomationbookstore.com`
- purchase a printed manual by:
  - contacting your local distributor or Rockwell Automation representative,
  - visiting `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 shipped with your product.

Rockwell Automation
Allen-Bradley

With major offices worldwide.
World Headquarters,
Allen-Bradley,
1201 South Second Street,
Milwaukee, WI 53204 USA,
Tel: (1) 414 382-2000 Fax: (1) 414 382-4444

1794-IN046B–EN–P – January 2002 PN957603–60