FLEX I/O
Remote I/O Adapter
(Cat. No. 1794-ASB Series B)
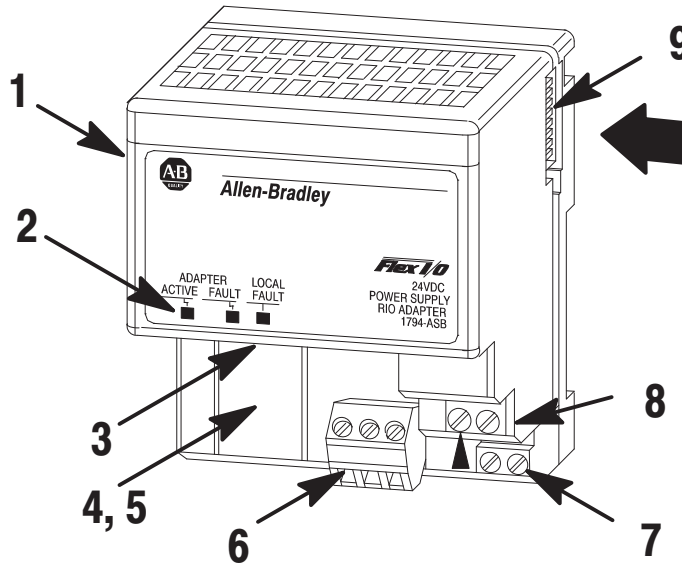
	Component Identification
1	Remote I/O Adapter module
2	Indicators
3	Communication reset pushbutton (PRL)
4	Access door to switches S1 and S2
5	Switches S1 and S2 (behind access door)
6	Remote I/O cable connector
7	+24V dc connections
8	24V common connections
9	Flexbus connector

European Union Directive Compliance

If this product has the CE mark it is approved for installation within the European Union and EEA regions. It has been designed and tested to meet the following directives.

EMC Directive

This product is tested to meet Council Directive 89/336/EEC Electromagnetic Compatibility (EMC) and the following standards, in whole or in part, documented in a technical construction file:

- EN 50081-2EMC – Generic Emission Standard, Part 2 – Industrial Environment
- EN 50082-2EMC – Generic Immunity Standard, Part 2 – Industrial Environment

This product is intended for use in an industrial environment.

Low Voltage Directive

This product is tested to meet Council Directive 73/23/EEC Low Voltage, by applying the safety requirements of EN 61131–2 Programmable Controllers, Part 2 – Equipment Requirements and Tests.

For specific information required by EN 61131-2, see the appropriate sections in this publication, as well as the following Allen-Bradley publications:

- Industrial Automation Wiring and Grounding Guidelines For Noise Immunity, publication 1770-4.1
- Guidelines for Handling Lithium Batteries, publication AG-5.4
- Automation Systems Catalog, publication B111

Mounting on the DIN Rail
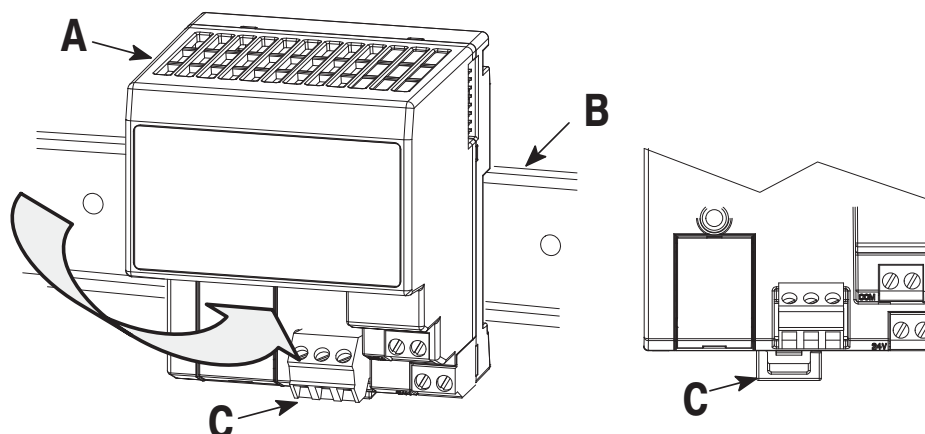
1. Position the remote I/O adapter module **A** on a 35 x 7.5mm DIN rail **B** (A-B pt. no. 199-DR1; 46277-3; EN 50022) at a slight angle.

2. 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.

3. 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.

4. 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.

5. 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."

Wiring

20131
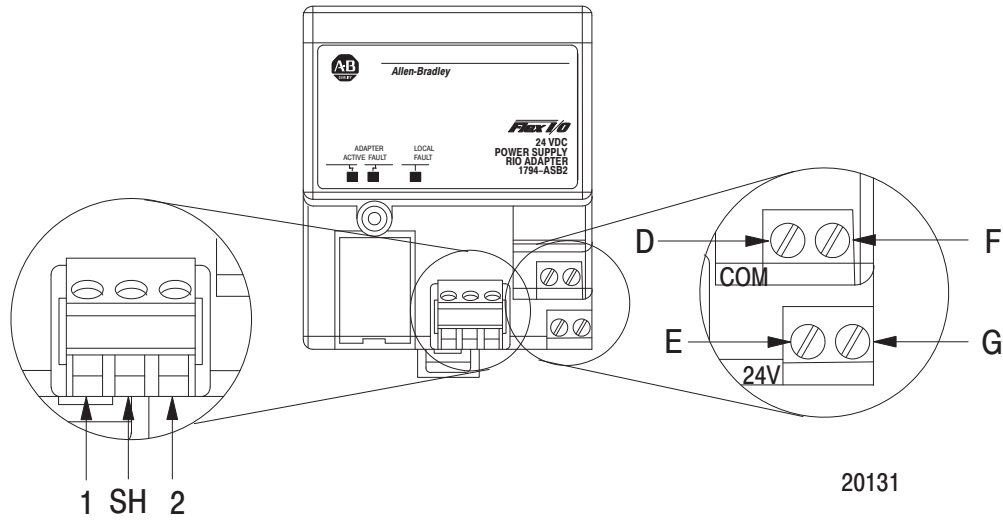
1. Connect the remote I/O cable to the removable remote I/O connector.

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

2. Connect +24V dc input to the left side of the lower connector, terminal **E**.

3. Connect 24V common to the left side of the upper connector, terminal **D**.

4. Connections **G** and **F** are used to pass 24V dc power (G) and 24V common (F) to the next module in the series (if required).

Set the Adapter Switches

The adapter switches are located under a flip-open cover on the front of the adapter. Set the switches as shown below.
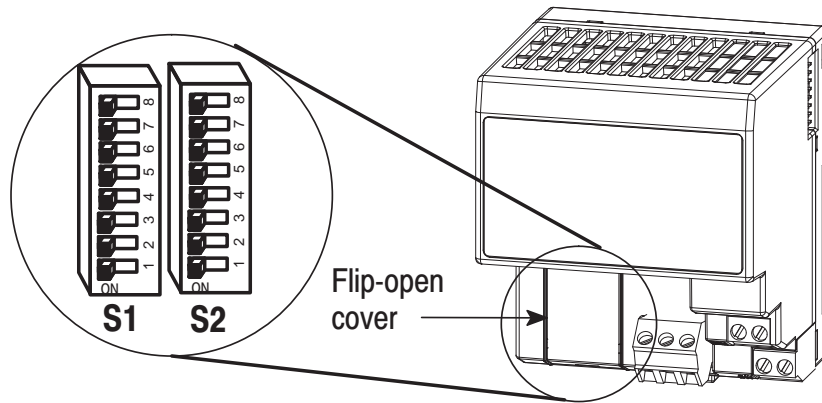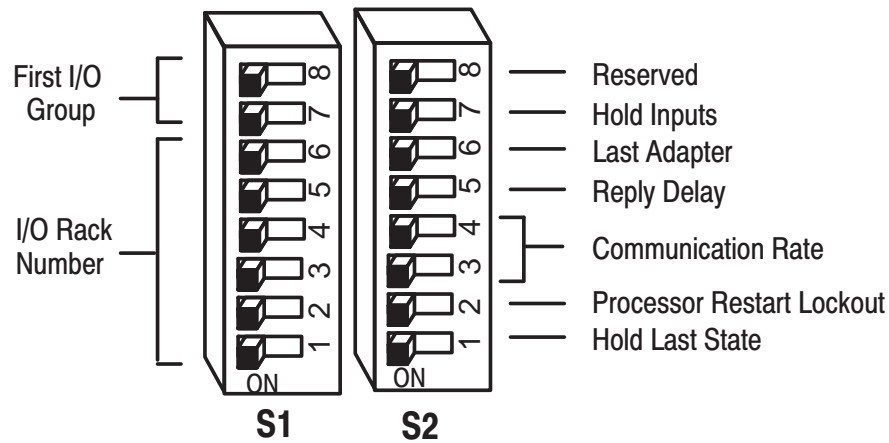
First I/O Group			I/O Rack Number
S1–8	**S1–7**	**Module group**	**S1–6 thru S1–1**
ON	ON	0 (1st)	Refer to the table on page 7
OFF	ON	2 (2nd)	
ON	OFF	4 (3rd)	
OFF	OFF	6 (4th)	

S2–8	**S2–7**	**Hold Inputs**	**S2–6**	**Last Adapter**	**S2–5**	**Reply Delay**
Reserved	ON	Hold Inputs	ON	Not last	ON	Off
	OFF	Reset Inputs	OFF	Last	OFF	On

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	230.4k				

Rack Number					S1 Switch Position					
1747-SN	**PLC–2 & 1771-SN**	**PLC–5**	**PLC–5/250**	**PLC–3**	**6**	**5**	**4**	**3**	**2**	**1**
Rack 0	Rack 1	Not Valid	Rack 0	Rack 0	ON	ON	ON	ON	ON	ON
Rack 1	Rack 2	Rack 1	Rack 1	Rack 1	OFF	ON	ON	ON	ON	ON
Rack 2	Rack 3	Rack 2	Rack 2	Rack 2	ON	OFF	ON	ON	ON	ON
Rack 3	Rack 4	Rack 3	Rack 3	Rack 3	OFF	OFF	ON	ON	ON	ON
	Rack 5	Rack 4	Rack 4	Rack 4	ON	ON	OFF	ON	ON	ON
	Rack 6	Rack 5	Rack 5	Rack 5	OFF	ON	OFF	ON	ON	ON
	Rack 7	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
				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 52	ON	OFF	ON	OFF	ON	OFF
				Rack 53	OFF	OFF	ON	OFF	ON	OFF
				Rack 54	ON	ON	OFF	OFF	ON	OFF

Rack Number					S1 Switch Position					
1747-SN	PLC–2 & 1771-SN	PLC–5	PLC–5/250	PLC–3	6	5	4	3	2	1
				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.

1794-ASB Specifications

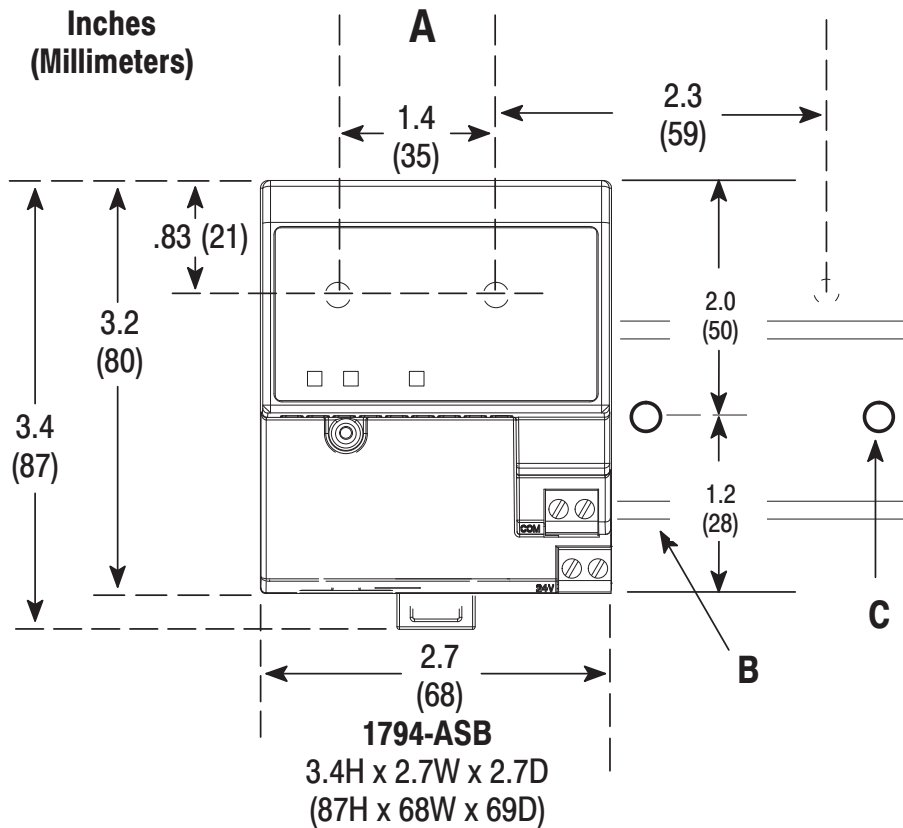|	
I/O Capacity	8 modules
Power Supply	**Note:** In order to comply with CE Low Voltage Directives, you must use a Safety Extra Low Voltage (SELV) or a Protected Extra Low Voltage (PELV) power supply to power this adapter.
Input Voltage Rating	24V dc nominal
Input Voltage Range	19.2V to 31.2V dc (includes 5% ac ripple)
Communication Rate	57.6k bps 115.2k bps 230.4k bps
Indicators	Adapter Active – green Adapter fault – red Local fault – red
Flexbus Output Current	640mA maximum
Isolation Voltage	100% tested at 850V dc for 1s between user power and flexbus
Power Consumption	450mA maximum from external 24V supply
Power Dissipation	4.6W maximum @ 31.2V dc
Thermal Dissipation	15.7 BTU/hr @ 31.2V dc

Environmental Conditions
   Operational Temperature
   Storage Temperature
   Relative Humidity
   Shock   Operating
              Non-operating
   Vibration
	
	0 to 55°C (32 to 131°F)
	–40 to 85°C (–40 to 185°F)
	5 to 95% noncondensing
	30 g peak acceleration, 11($\pm$1)ms pulse width
	50 g peak acceleration, 11($\pm$1)ms pulse width
	Tested 5 g @ 10–500Hz per IEC 68-2-6

Remote I/O Cable	Belden 9463 or equivalent as specified in publication ICCG-2.2

Power Conductors
   Wire Size
 	
   Category
	
	12 gauge (4mm^2) stranded maximum
	3/64 inch (1.2mm) insulation max.
	2[1]

Specifications continued on next page	

1794-ASB Specifications

Agency Certification (when product or packaging is marked)	• CSA certified • CSA Class I, Division 2 Groups A, B, C, D certified • UL listed • CE marked for all applicable directives
User Manual	Publication 1794-6.5.3

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

Mounting Dimensions

**Inches
(Millimeters)**

A

1.4
(35)

2.3
(59)

.83 (21)

3.2
(80)

3.4
(87)

2.0
(50)

1.2
(28)

C

COM

24V

2.7
(68)

B

1794-ASB
3.4H x 2.7W x 2.7D
(87H x 68W x 69D)

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

Ⓟ 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