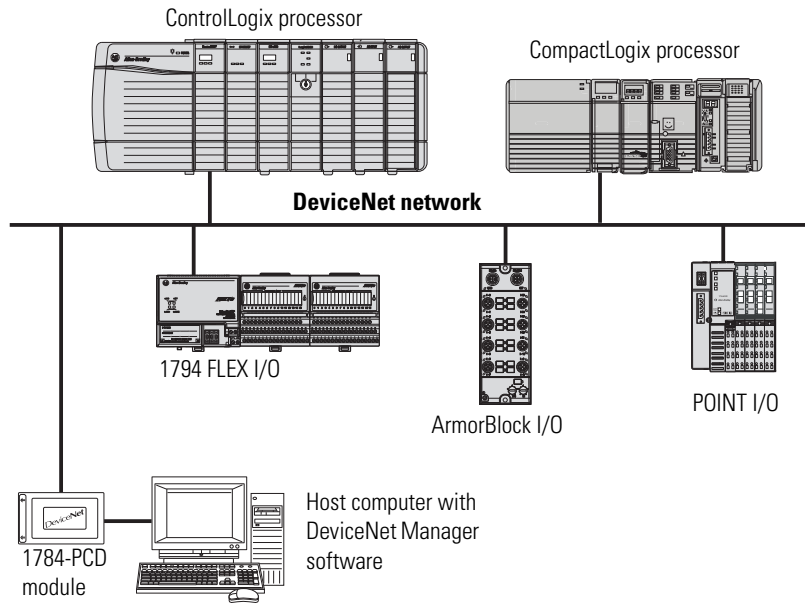


Specify a FLEX I/O or FLEX I/O XT System

Follow these steps as you specify your FLEX I/O or FLEX I/O XT system:

✓	Step	See	Page
	1 Select a communication adapter Choose the network for your operating system.	CIP Network Infrastructure	7
		Select a Network	8
	2 Select I/O modules based on field device <ul style="list-style-type: none"> • location of the device • your application • number of points needed • number of points available per module • number of modules Or use the Integrated Architecture Builder tool at http://www.rockwellautomation.com/en/e-tools/configuration.html	Digital I/O Modules	15
		FLEX I/O Analog, Thermocouple and RTD Modules	35
		FLEX I/O Counter Modules	58
	3 Select a terminal base Choose an appropriate terminal base for your modules.	General Specification Comparison	65
	4 Choose appropriate power supplies <ul style="list-style-type: none"> • Choose appropriate power supply • Ensure sufficient power for the communication adapter and modules 	Power Supply Definitions	67
		Power Requirements and Transformer Sizing	68
	5 Determine mounting requirements and select accessories <ul style="list-style-type: none"> • Determine whether to panel mount or DIN rail mount the FLEX I/O system and at what orientation (horizontal or vertical) • Choose appropriate optional accessories to enhance your system 	panel mount or DIN rail mount	113
		1794-CE1 and 1794-CE3 Extender Cables	115
		1794-NM1 FLEX I/O Mounting Kit	115
		1492-EA35 DIN Rail Locks	116
		1794-LBL FLEX I/O Label Kit	116

DeviceNet Communication



FLEX I/O DeviceNet Adapter Specifications

Attribute	1794-ADN, 1794-ADNK
I/O module capacity	8
Communication rate	125 Kbps 250 Kbps 500 Kbps
Power consumption at 24V	7.9 W
Inrush current at 24V	23 A for 2 ms
Power dissipation, max	4.6 W @ 19.2V DC
Thermal dissipation	15.7 BTU/hr @ 19.2V DC
Power supply 24V current load	330 mA
Power supply 24V output current, max	450 mA
Power supply input voltage, nom	24V DC
Operating voltage range	19.2...31.2V DC (includes 5% AC ripple)
DeviceNet cable	Allen-Bradley part no. 1485C-P1-Cxxx. Refer to publication 198-UM001 for more information. Extended Local Cable: 1794-CE1 (0.3 m) or 1794-CE3 (0.9 m)
Isolation voltage	Tested @ 850V DC for 1 s, user power to system
Dimensions (HxWxD), approx	87 x 68 x 69 mm 3.4 x 2.7 x 2.7 in.

Other Networks – Remote I/O

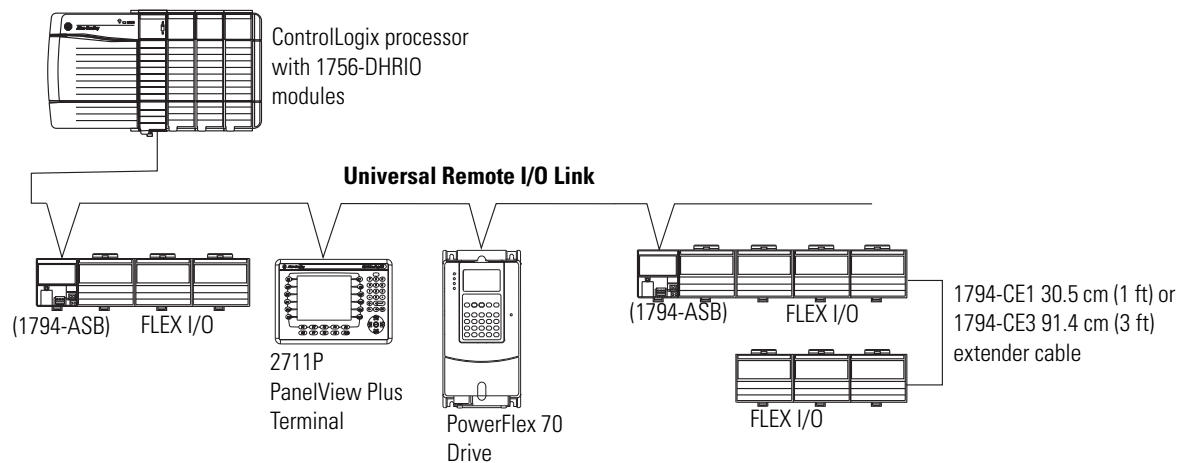
The 1794-ASB and 1794-ASB2 adapters provide connection to the Remote I/O network.

The 1794-ASB2 supports only two FLEX I/O modules. The 1794-ASBLT is only for use with classic PLC 5/15 or PLC 5/25 processors.

ATTENTION: Do not use these Remote I/O adapters with the Classic PLC-5/15 or PLC-5/25 processors. Improper operation of the remote I/O may result.

- 1794-ASB, Series E
- 1794-ASB2, Series D
- 1794-ASB2K, Series D

Other Network Communication



FLEX I/O Remote I/O Adapter Specifications

Attribute	1794-ASB, 1794-ASBLT ⁽¹⁾	1794-ASB2
I/O module capacity	8	2
Communication rate	57.6 Kbps 115.2 Kbps 230.4 Kbps	
Power consumption at 24V	7.9 W	4.2 W
Inrush current at 24V	23 A for 2 ms	
Power dissipation, max	4.6 W @ 19.2V DC	3.4 W @ 19.2V DC
Thermal dissipation	15.7 BTU/hr @ 19.2V DC	11.6 BTU/hr @ 19.2V DC
Power supply 24V current load	330 mA	175 mA
Power supply input voltage, nom	24V DC	
Operating voltage range	19.2...31.2V DC (includes 5% AC ripple)	
DeviceNet cable	Remote I/O: Belden 9463 or equivalent as specified in Allen-Bradley Approved Vendor List, publication ICGG-2.2 Allen-Bradley pin connector part no. 942029-03	
Isolation voltage	Tested @ 850V DC for 1 s, user power to system	
Dimensions (HxWxD), approx	87 x 68 x 69 mm 3.4 x 2.7 x 2.7 in.	

(1) The 1794-ASBLT is only for use with Class PLC 5/15 or PLC 5/25 processors.

Specify a FLEX Ex System

Follow these steps as you specify your FLEX Ex I/O system:

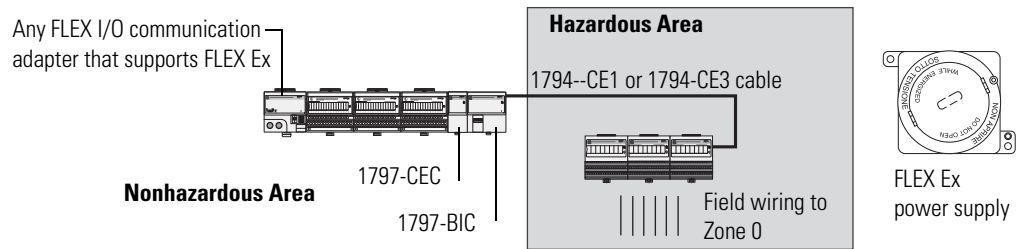
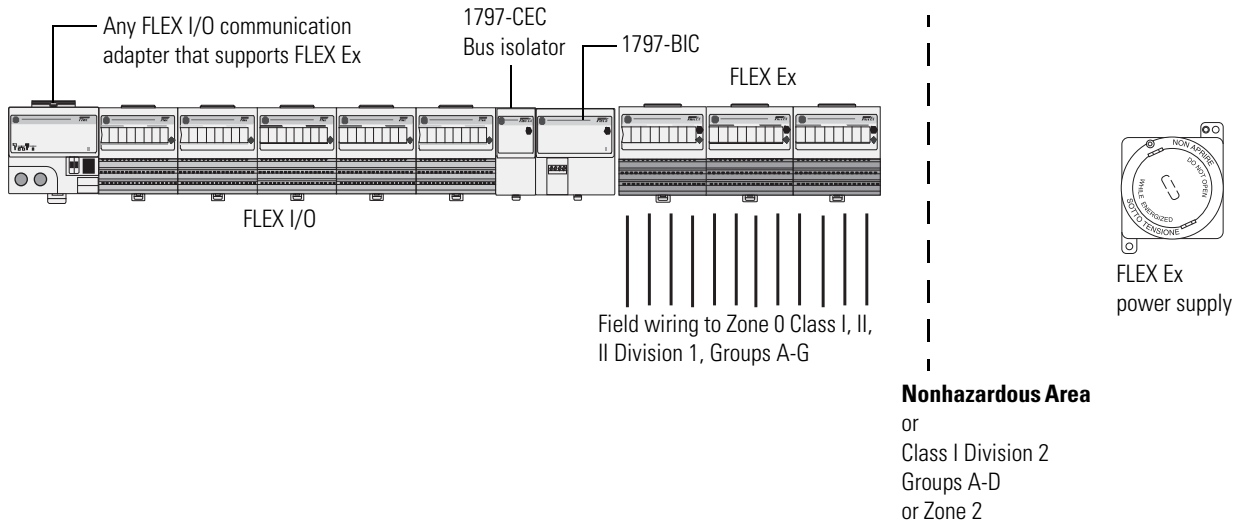
✓	Step	See	Page
	1 Select an adapter and distribution method Choose an adapter and fiber hub or coax barrier to distribute FLEX Ex into the hazardous area. Or, choose a bus isolator pair to connect to various networks.	Select FLEX Ex I/O Communication Adapters and Distribution Method 1797-RPFM ControlNet Ex 3 km Fiber Media Port Adapter 1797-BCNR Coax Barrier Module 1797-BIC Bus Isolator Module and 1797-CEC FlexBus Connector	79 82 82 84
	2 Determine the I/O devices <ul style="list-style-type: none"> • location of the device • number of points needed • appropriate catalog number • number of points available per module • number of modules 	Digital I/O Modules Analog Modules HART Interface Modules Counter I/O Module	87 91 95 98
	3 Select a terminal base Choose an appropriate terminal base for your modules.	Terminal Base Wiring Diagrams	103
	4 Select power supplies <ul style="list-style-type: none"> • Choose appropriate power supply • Ensure sufficient power for the communication adapter and modules 	Select a FLEX Ex I/O Power Supply Understanding System Planning Assigning Power Supplies Hazardous Area Installation General Specification Comparison	105 106 108 109 105
	5 Select optional accessories <ul style="list-style-type: none"> • Determine whether to panel mount or DIN rail mount the FLEX I/O system and at what orientation (horizontal or vertical) • Choose appropriate optional accessories to enhance your system 	Mount the FLEX System 1794-CE1 and 1794-CE3 Extender Cables 1797-BOOT ControlNet BNC Boot 1797-INS Trunk Insulator and 1797-EXMK Marking Kit ControlNet Ex Taps	113 115 117 117 118

1797-BIC Bus Isolator Module and 1797-CEC FlexBus Connector

The bus isolator modules, 1797-BIC and -CEC, allow you to configure FLEX Ex modules and FLEX I/O modules on the DIN Rail when attached to the same adapter and grouped together on appropriate sides of the bus isolator module. This highly flexible, cost-effective solution combines intrinsically safe and non-intrinsically safe systems.

Intermixed system can be configured for use in the:

- safe area much like traditional IS and I/O systems
- hazardous and safe control equipment where the distance of physical separation is short
- FLEX Ex I/O with communication adapters that are not intrinsically safe



The 1797-BIC and -CEC modules provide an IS-compatible mechanism to separate two sections of the backplane, allowing IS and non-IS field-device wiring to the same I/O group. It converts hazardous power to IS-safe power to run one side of the bus receiver/transmitter circuitry and IS-safe power to slave side modules. A total of eight I/O modules (1794 FLEX I/O or 1797 FLEX Ex I/O) may be attached to the adapter.

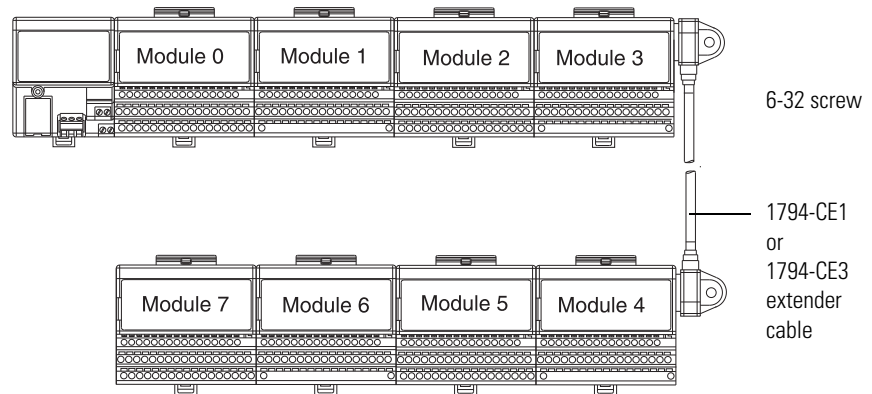
Select Optional Accessories

Step 5 – Select:

optional accessories for FLEX I/O and FLEX I/O XT modules

1794-CE1 and 1794-CE3 Extender Cables

Use one optional 1794-CE1 – 0.3 m (1 ft) or 1794-CE3 – 0.9 m (3 ft) extender cable, per system, to arrange your system in two rows or split your system into horizontal and vertical orientation. The cable can be used between any module or between adapters and modules.



1794-NM1 FLEX I/O Mounting Kit

Use the optional 1794-NM1 FLEX I/O mounting kit to mount your FLEX I/O system on a panel without a DIN Rail.

1794-NM1 mounting kit with 18 screws (2 screws for the adapter and 2 screws for each module)

