Select a Network

You can configure your system for information exchange between a range of field devices and a specific scanner. You select the communication adapters for the networks that meet your needs:

Network Comparison by Application Requirement

Application Requirements	Network[1]	Communication Adapter
• Plant management (material handling) • Configuration, data collection, and control on a single, high-speed network • Time-critical applications with no established schedule • Data sent regularly • Internet/Intranet connection • Built-in switch, or high availability requirement (2-port AENTR)	EtherNet/IP	1794-AENT 1794-AENTR 1794-AENTRXT
• High-speed transfer of time-critical data between controllers and I/O devices • Deterministic and repeatable data delivery • Media redundancy	ControlNet	1794-ACN15 1794-ACN15K[2] 1794-ACNR15[3] 1794-ACNR15XT[4]
• Connections of low-level devices to plant floor controllers • More diagnostics for improved data collection and fault detection • Less wiring and reduced start-up time than a traditional, hard-wired system	DeviceNet	1794-ADN 1794-ADNK
• Connections to Remote I/O networks	Remote I/O	1794-ASB 1794-ASB2
• Connection to PROFIBUS DP and DPV1 networks	PROFIBUS DP PROFIBUS DPV1	1794-APB 1794-APBDPV1

(1) Communication adapters and other components are available for adding to your system as your specific application requirements change. For more information, go to www.rockwellautomation.com/encompass and search for products under the FLEX I/O platform.

(2) Modules that have the letter K in the last position of the catalog number, before the series designation, refer to conformal coated versions of the standard modules. These modules meet the following certifications: ANSI / ISA-S71.04-1985, Class G1, G2, and G3 environments; CEI IEC 6065A-4 Class 1 and 2 environments; UL 746E

(3) Modules that have the letter R in the catalog number, before the series designation, refer to redundancy versions of the standard modules and are meant for redundancy networks.

(4) Modules that have the letters XT in the catalog number, before the series designation, refer to extended temperatures version of the standard modules.

EtherNet/IP Network

EtherNet/IP is a network suitable for use in industrial environment and time-critical applications. EtherNet/IP uses standard Ethernet and TCP/IP technologies and an open application layer protocol called the Control and Information Protocol (CIP). CIP is also the application layer used in DeviceNet and ControlNet networks. The open Application Layer protocol makes interoperability and interchangeability of industrial automation and control devices on EtherNet/IP a reality for automation and control applications.

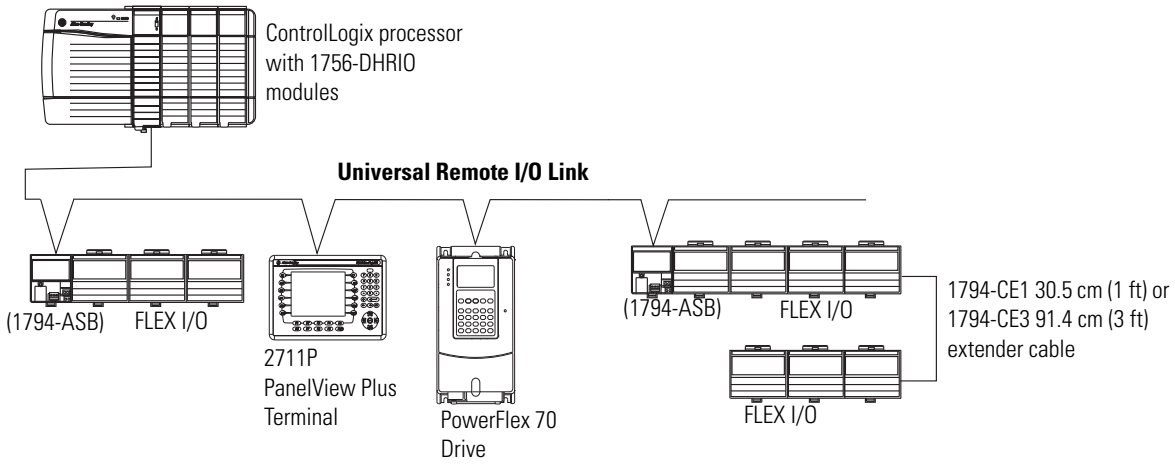
The 1794-AENT and 1794-AENTR connect FLEX I/O to Ethernet/IP enabled controllers such as ControlLogix or CompactLogix.

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 ICCG-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.

Other Networks – PROFIBUS DP

Use the 1794-APB or 1794-APBDPV1 adapter to connect to a PROFIBUS DP network.

FLEX I/O Remote I/O Adapter Specifications

Attribute	1794-APB	1794-APBDPV1
I/O module capacity	8	
Communication rate	57.6 Kbps 115.2 Kbps 230.4 Kbps	All rates up to 12 Mbps
Power consumption at 24V	7.9 W	9.6 W
Inrush current at 24V	23 A for 2 ms	
Power dissipation, max	5.3 W @ 19.2V DC	4.2 W @ 19.2V DC
Thermal dissipation	17.9 BTU/hr @ 19.2V DC	14 BTU/hr @ 19.2V DC
Power supply 24V current load	450 mA	640 mA
Power supply input voltage, nom	24V DC	
Operating voltage range	19.2…31.2V DC (includes 5% AC ripple)	
PROFIBUS connector	9-pin D-shell; PROFIBUS standard drop cable	
Isolation voltage	Tested @ 850V DC for 1 s, user power to system	Tested @ 850V DC for 60 s, PROFIBUS to backplane to power
Dimensions (HxWxD), approx	87 x 68 x 69 mm 3.4 x 2.7 x 2.7 in.	

Our Encompass partners offer adapters for connecting to RS-232/422/485, Serial/DF1, and Modbus. For details, go to www.rockwellautomation.com/encompass/ and search for products under the platform FLEX I/O.