

Flex I/O

In-Cabinet Modular I/O Platform

Benefits

Reduced Space: Wire direct from sensor to terminal base and eliminate terminal strip

Functionality: 4- through 32-point modules offer functions of larger rack-based I/O

Increased Productivity: Easy configuration and setup of I/O modules using wizards speeds engineering and installation

Reduced Downtime: Removal and Insertion Under Power (RIUP) and diagnostics

Exceptional Choices: Over 90 catalog numbers and a breadth of specialty modules meet the needs of a wide variety of applications

Network Flexibility: Communicates on EtherNet/IP, ControlNet, DeviceNet, Remote I/O and other open networks

Improved Plant Operations: HART analog modules pass through HART data to asset management software or controller for improved plant operations



Flex I/O

FLEX™ I/O offers all the functions of larger rack-based I/O without the space requirements. Its cost effectiveness, flexibility, modularity, and reliability have made it the most popular distributed I/O platform with over 4 million modules sold.

FLEX I/O helps eliminate multiple long wiring runs, reduces terminations per point, decreases engineering and installation costs and time, and substantially reduces downtime. It complements all processor platforms from Rockwell Automation for a distributed I/O solution. In addition, it acts as local I/O for the FlexLogix™ programmable automation controller for a tightly integrated control and I/O solution.

Your FLEX I/O system can communicate on EtherNet/IP™, ControlNet™, DeviceNet™, and many other open networks including, but not limited to, Remote I/O, PROFIBUS DP®, and Interbus-S. Independently select the I/O, termination style, and network to meet your application needs. Adapters and other components are available for adding to your system as your requirements change.

LISTEN.
THINK.
SOLVE.™

FLEX I/O Products

The following table lists the available FLEX I/O products.

General Specifications

Operating Temperature	0...55 °C (32...131 °F)
Storage Temperature	-40...85 °C (-40...185 °F)
Relative Humidity	5...95% non-condensing
Shock, Operating*	30 g peak acceleration, 11(±1) ms pulse width
Shock, Non-Operating*	50 g peak acceleration, 11(±1) ms pulse width
Vibration*	Tested 5 g @ 10...500 Hz per IEC 68-2-6

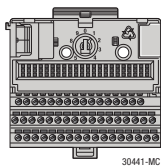
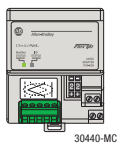
* To maintain these specifications, you must use DIN rail locks

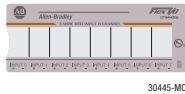
Dimensions and Weights

		Dimensions (HxWxD), Approx.	Weight
I/O Modules		46 x 94 x 53 mm (1.8 x 3.7 x 2.1 in)	0.1 kg (0.3 lb)
I/O Adapters[≠]		87 x 68 x 69 mm (3.4 x 2.7 x 2.7 in)	0.2 kg (0.4 lb)
Terminal Bases		94 x 94 x 69 mm (3.4 x 3.7 x 2.7 in)	0.2 kg (0.5 lb)
Power Supplies	1794-PS13	87 x 68 x 69 mm (3.4 x 2.7 x 2.7 in)	0.2 kg (0.5 lb)
	1794-PS3	87 x 94 x 69 mm (3.4 x 3.7 x 2.7 in)	0.4 kg (0.8 lb)

[≠] 1794-AENT, 1794-ACN15, and 1794-ACNR15 adapters have the following dimensions: 87 x 94 x 69 mm (3.4 x 3.7 x 2.7 in)

	Product	Catalog Number	Description		
Communications Components	Adapter	1794-ACN15	24V dc ControlNet Adapter		
		1794-ACNR15	24V dc ControlNet Redundant Media Adapter		
		1794-ADN	24V dc DeviceNet Adapter		
		1794-AENT	Series B Flex Adapter EtherNet I/P w/enhancements		
		1794-APB	12Mbps PROFIBUS DP Adapter		
		1794-APBDV1	12Mbps PROFIBUS DP –V1 Adapter		
		1794-ASB	24V dc Remote I/O Adapter (to 8 modules)		
Termination Styles	Terminal Base Units	1794-ASB2	24V dc Remote I/O Adapter (to 2 modules)		
		1794-TB2	2-Wire Screw Clamp Terminal Base Unit		
		1794-TB3	3-Wire Screw Clamp Terminal Base Unit		
		1794-TB3S	3-Wire Spring Clamp Terminal Base Unit		
		1794-TB32	32-Point Screw Clamp Terminal Base Unit		
		1794-TB32S	32-Point Spring Clamp Terminal Base Unit		
		1794-TB3T	Temperature Terminal Base Unit		
		1794-TB3TS	Spring Clamp Temperature Terminal Base Unit		
		1794-TB3G	Screw Clamp Grounded Terminal Base Unit		
		1794-TB3GS	Spring Clamp Grounded Terminal Base Unit		
		1794-TBN	Terminal Base Unit (NEMA-style)		
		1794-TBNF	Fused Terminal Base Unit (NEMA-style)		
		1794-TBKD	Knife Disconnect Terminal Base Unit		
		1794-TB37DS	37 Pin D-Shell Termination (digital & analog modules)		
		1794-TB62DS	62 Pin D-Shell Termination (32pt. I/O modules)		
		AC I/O	120V ac Modules	1794-IA8	120V ac 8 Input Module
				1794-IA8I	120V ac 8 Isolated Input Module
				1794-IA16	120V ac 16 Input Module
				1794-OA8	120V ac Output Module
1794-OA8I	120V ac 8 Isolated Output Module				
1794-OA16	120V ac 16 Output Module				
220V ac Modules	1794-IM8		220V ac 8 Input Module		
	1794-IM16		220V ac 16 Input Module		
	1794-OM8		220V ac 8 Output Module		
	1794-OM16		220V ac 16 Output Module		





	Product	Catalog Number	Description
DC I/O	5V dc Modules	1794-IG16	5V dc 16 TTL Input Module
		1794-OG16	5V dc 16 TTL Output Module
	24V dc Modules	1794-IB8	24V dc 8 Sink Input Module
		1794-IB10XOB6	24V dc 10 Sink Input/6 2A Source Output Module
		1794-IB16	24V dc 16 Sink Input Module
		1794-IB16D	24V dc 16 Sink Input Module, with Diagnostics
		1794-IB16XOB16P	24V dc Combo Module, 16 Sink Inputs/16 Source Outputs, Protected Module
		1794-IB32	24V dc 32 Sink Input Module
		1794-IV16	24V dc 16 Source Input Module
		1794-IV32	24V dc 32 Source Input Module
		1794-OB8	24V dc 8 Source Output Module
		1794-OB8EP	24V dc Electronically Fused 8 2A Output Module
		1794-OB16	24V dc 16 Source Output Module
		1794-OB16D	24V dc 16 Source Output Module, with Diagnostics
	1794-OB16P	24V dc 16 Source Output Module, Protected	
	1794-OB32P	24V dc 32 Source Output Module, Protected	
	1794-OV32	24V dc 32 Source Output Module	
	1794-OV16	24V dc 16 Sink Output Module	
	1794-OV16P	24V dc 16 Sink Output Module, Protected	
	48V dc	1794-IC16	48V dc 16 Sink Input Module
1794-OC16		48V dc 16 Source Output Module	
125V dc	1794-IH16	125V dc 16 Sink Input Module	
Analog I/O	24V dc Analog Modules	1794-IE4XOE2	24V dc 4 Input/2 Output Analog Combo Module
		1794-IE8	24V dc Selectable Analog 8 Input Module
		1794-IE8H	24V dc Selectable Analog, 8 Input, with HART pass-thru
		1794-IE8XOE4	24V dc 8 Input/4 Output Selectable Analog Module
		1794-IE12	24V dc Selectable Analog 12 Input Module
		1794-OE4	24V dc Selectable Analog 4 Output Module
		1794-OE8H	24V dc Selectable Analog 8 Output, with HART pass-thru
		1794-OE12	24V dc Selectable Analog 12 Output Module
Isolated Analog I/O	Analog Modules	1794-IF4I	24V dc Source Isolated 4 Input Module
		1794-OF4I	24V dc Source Isolated 4 Output Module
		1794-IF2XOF2I	24V dc 2 Input/2 Output Isolated Analog Combo Module
		1794-IF8IH	Flex Isolated HART Analog Input
		1794-OF8IH	Flex Isolated HART Analog Output
Relay Specialty I/O	Relay Module	1794-OW8	8 Isolated Relay Output Module, 2A normally open
	Encoder Input Module	1794-ID2	24V dc 2 Channel Incremental Encoder Input Module
	Frequency Input Module	1794-IJ2	24V dc 2 Input Frequency Module
	Pulse Counter Input Module	1794-IP4	24V dc 4 Channel Pulse Counter Module
	RTD Input Module	1794-IR8	24V dc RTD Input Module
	Thermocouple/RTD Input Module	1794-IRT8	24V dc Thermocouple/RTD/mV Module
	Thermocouple/mV Input Module	1794-IT8	24V dc Thermocouple/mV Module
	Very High Speed Counter Module	1794-VHSC	24V dc 4 Digital Output Module
SCANport Module	1204-FM1	24V dc SCANport Module (SCANBUS interface)	
Power Supply	Power Supply	1794-PS13	24V dc, 1.3A
		1794-PS3	24V dc, 3.0A

	Product	Catalog Number	Description
Accessories	Accessories	1794-CE1	Extender Cable, 0.3m (1 ft.)
		1794-CE3	Extender Cable, 0.9m (3 ft.)
		1794-CJC2	Cold Junction Compensator Kit
		1794-N2	FLEX Dummy Filler Module
		1794-NM1	Mounting Kit for panel mounting
		1794-LBL	Label Kit for terminal bases
		1492-EA35	DIN Rail Locks (for vertical mounting)
			RSWire Software
			ABECAD Software free at www.ab.com/software
		Integrated Architecture Builder 4.0 free at www.ab.com/logix/iab	

Certifications*

UL Listed Industrial Control Equipment
 UL Listed for Class I, Division 2 Groups A, B, C, D Hazardous Locations
 CE Marked for all applicable directives†
 CE/ATEX†
 CSA Certified Process Control Equipment for Class I, Division 2 Group A, B, C, D Hazardous Locations
 C-Tick Marked for all applicable acts
 Marine Certification≠
 SIL 2 Certification≈

*When product is marked. See specific module installation instructions for details

†See the CE Marking - Declaration of Conformity (DoC) web site for details

≠See the Certification for Marine and Off-shore Applications web site for details

≈See the SIL 2 website for details

Conformal Coated Products

FLEX I/O conformal coated products meet or exceed the following standards:
 ANSI / ISA-S71.04-1985, Class G1, G2, G3 environments
 CEI IEC 6065A-4 Class 1 and 2 environments
 UL 746E

Publications

1794-SG002_-EN-P FLEX Selection Guide
 ACIG-BR002_-EN-P Distributed I/O Products Brochure
 1794-BR017_-EN-P FLEX Conformal Coating Brochure



Encompass Partner Products

Company	Product	Description	Connectivity
ProSoft Technology, Inc.	"C" Programmable Solutions	"C" Programmable, Application Development and other application dependent interfaces available.	Backplane
ProSoft Technology, Inc.	FLEX-Communication Adapters 3170 Family	Allows Rockwell Automation FLEX I/O modules to interface to various protocols.	RS-232/422/485, Other Networks, Remote I/O
ProSoft Technology, Inc.	FLEX-Protocol Solutions MVI 94 Family	The FLEX communication modules are designed to connect the FLEX platform to any serial field device.	RS-232/422/485, Other Networks, Serial/DF1

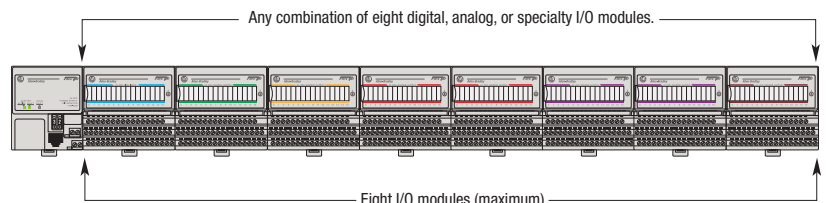
For more information go to www.rockwellautomation.com/encompass and search for referenced products under the platform FLEX I/O.

The FLEX I/O system contains a network adapter, terminal bases, and I/O modules. You can power the system with a FLEX power supply or any other compatible power source. You can use as many as eight terminal bases per adapter, allowing a wide variety of I/O channels per adapter, or mix and match digital, analog and specialty I/O modules to meet your specific needs. For instance,

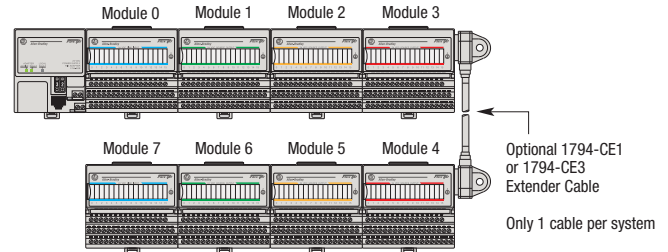
- 256 digital inputs/outputs with 32-point modules
- 96 analog inputs

FLEX I/O can be mounted horizontally or vertically on standard 35mm DIN rail or panel mounted. Select FLEX I/O modules are available with conformal coating as standard stocked items (K versions).

FLEX Ex, an intrinsically safe line extension is also in the FLEX I/O family. FLEX Ex can be distributed throughout hazardous areas without the use of bulky explosion proof or purged enclosures.

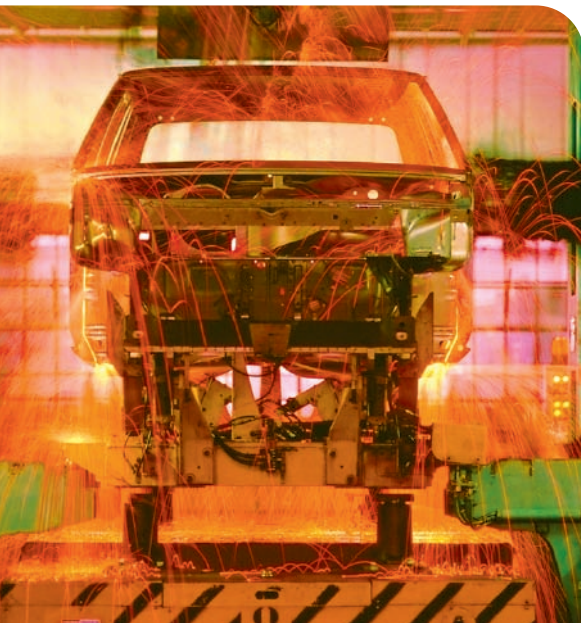


The number bases that make up an I/O group depends upon the adapter used.



When using the optional extender cable, module groups are numbered sequentially along the length of the system.

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www.rockwellautomation.com

Power, Control and Information Solutions Headquarters

Americas: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444

Europe/Middle East/Africa: Rockwell Automation, Vorstlaan/Boulevard du Souverain 36, 1170 Brussels, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640

Asia Pacific: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846