ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Find the *Rockwell / Allen-Bradley 1791D-8B8P* at our website: ***Click HERE***

1791D/P/R COMPACTBLOCK I/O

CompactBlock I/O

Product Overview

CompactBlock I/O is ideal for applications restricted by space limitations and applications requiring highly distributed I/O blocks close to sensors and actuators. DeviceNet, Universal Remote I/O, and PROFIBUS DP are supported. Up to 32 points can be addressed on a single network node. Local control is accomplished through DeviceLogix™ Smart Component Technology.



Benefits

- Compact size fits into shallow enclosures and confined areas.
- Built-in DeviceNet, Universal Remote I/O, or PROFIBUS DP adapters offer multiple network solutions.
- DeviceLogix™ Smart Component Technology on DeviceNet blocks enable localized, simple control functions for faster sense-to-actuation time.
- Higher environmental specifications compared to 1790 CompactBlock LDX I/O blocks expands application range.
- IEC/NEMA Type 3+ inputs offer the widest range of compatible sensors.
- Removable terminal strips make it easy to replace an I/O block without rewiring.
- Node address switches and autobaud ease network commissioning.
- Cyclic and change-of-state DeviceNet operation improves network throughput by reducing network bandwidth usage.
- Selectable input filters let you select off-to-on and on-to-off delays best suited for your application.
- Output short-circuit protection protects outputs against accidental miswiring.

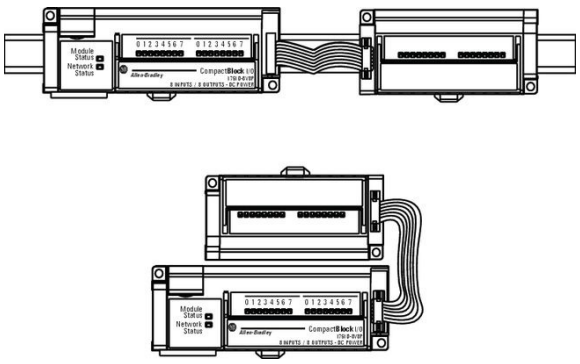
Product Design

CompactBlock I/O blocks are available as either base blocks or expansion blocks. The base blocks contain a maximum of 16 digital I/O, as well as a built-in DeviceNet, Universal Remote I/O, or PROFIBUS DP network adapter. DeviceNet base blocks include DeviceLogix Smart Component Technology.

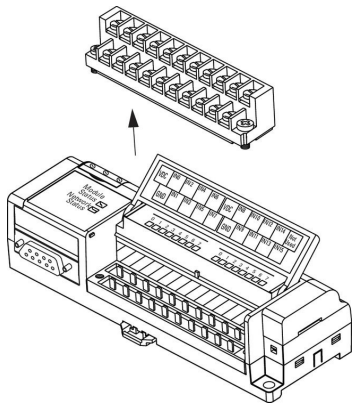
A CompactBlock I/O expansion block contains 16 digital I/O or 4 in/2 out of analog points and connects to a base block through a ribbon cable. You can add one expansion block to a CompactBlock I/O base block for up to 32 I/O points per node. Expansion blocks are compatible with all base blocks. An expansion block cannot be used alone.

The DeviceNet network supplies power to DeviceNet base blocks and expansion blocks. A separate external 24V DC power supply is required for Universal Remote I/O and PROFIBUS DP base blocks and expansion blocks. Inputs and outputs are powered by an external 24V DC source that is independent of the network.

Removable terminal strips on CompactBlock I/O make it easy to replace an I/O block without rewiring. The I/O blocks can be mounted on a panel or DIN rail in virtually any orientation.



Possible configurations for CompactBlock I/O modules on DeviceNet, PROFIBUS DP, and Universal Remote I/O networks. Each base module supports one expansion module.



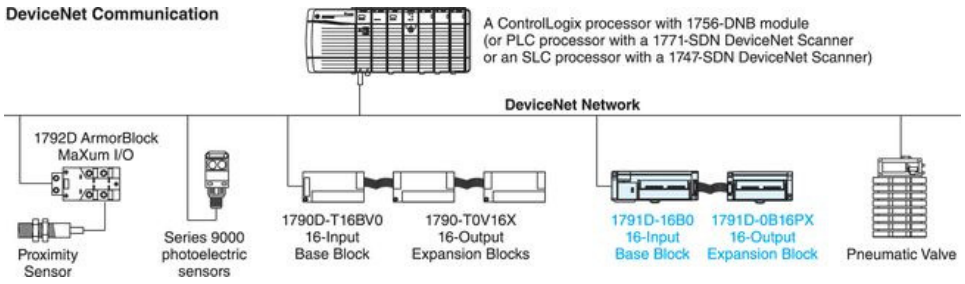
The CompactBlock I/O modules contain a removable terminal block that allows for easy module replacement without rewiring. Removable terminal blocks on all modules are easy to maintain and help reduce downtime.

Communication

A CompactBlock I/O base block has a built-in DeviceNet, Universal Remote I/O, or PROFIBUS DP I/O adapter port that interfaces the I/O with a network link to communicate with a scanner port for a programmable controller processor.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Typical Configuration



Specifications

General Specifications

Enclosure Type Rating	Meets IP20
Mounting Type	DIN-rail, Panel
Operating Temperature	0…60 °C (32…140 °F)
Nonoperating Temperature	-40…85 °C (-40…185 °F)
Relative Humidity	5…95% noncondensing
Operating Shock	30 g
Nonoperating Shock	50 g
Vibration	5 g at 10…500 Hz
Certifications¬	UL, c-UL-us Class I Div 2 Hazardous, CE, C-Tick, ODVA

¬ When product is marked. See the Product Certification link at www.ab.com for declarations of Conformity, Certificates, and other certification details.

Dimensions and Weights

Description	Dimensions (HxWxD), Approx.	Weight
Base Blocks	50 x 150 x 38 mm (1.97 x 5.91 x 1.5 in)	0.2 kg (0.4 lb)
Expansion Blocks	50 x 115 x 38 mm (1.97 x 4.4 x 1.5 in)	0.1 kg (0.3 lb)

Digital I/O Base Blocks

- Built-in DeviceNet (1791D), Universal Remote I/O (1791R), or PROFIBUS DP (1791P) I/O adapter with up to 16 I/O points.
- DeviceLogix Smart Component Technology included in DeviceNet base blocks.
- Each base block supports one digital or analog CompactBlock expansion block (except for 1791D-4B0, which is not expandable).
- Removable screw-clamp terminal strips.

Digital DC Input Base Blocks

Cat. No.	1791D-4B0‡	1791D-16B0	1791R-16B0	1791P-16B0	1791D-16V0
Termination Type	Screw-clamp	Screw-clamp			Screw-clamp
Number of Inputs	4 Sink, Non-isolated (1 group of 4)	16 Sink, Non-isolated (2 groups of 8)			16 Source, Non-isolated (2 groups of 8)
Voltage, On-State Input, Nom.	24V DC	24V DC			24V DC
Voltage, On-State Input, Range	10…30V DC¬	10…30V DC¬			10…30V DC¬
Current, Off-State Input, Max.	1.5 mA	1.5 mA			1.5 mA
Network Adapter	DeviceNet	DeviceNet	Universal Remote I/O	PROFIBUS DP	DeviceNet
Network Current Load	200 mA	200 mA	250 mA	250 mA	200 mA
Power Dissipation, Max.	3.52 W	7.48 W	9.78 W	9.78 W	7.48 W

¬ Max voltage @ 40 °C; 25V DC @ 60 °C.
‡ Not expandable.

Digital DC Output Base Blocks

Outputs are electronically protected.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Cat. No.	1791D-0B8P	1791D-0B16P	1791R-0B16P	1791P-0B16P	1791D-0V16P
Termination Type	Screw-clamp	Screw-clamp			Screw-clamp
Number of Outputs	8 Source, Non-isolated (1 group of 8)	16 Source, Non-isolated (2 groups of 8)			16 Sink, Non-isolated (2 groups of 8)
Voltage, On-State Output, Nom.	24V DC	24V DC			24V DC
Voltage, On-State Output, Range	10...30V DC	10...30V DC			10...30V DC
Current, On-state Output, Max.	0.5 A	0.5 A			0.5 A
Network Adapter	DeviceNet	DeviceNet	Universal Remote I/O	PROFIBUS DP	DeviceNet
Network Current Load	200 mA	200 mA	250 mA	250 mA	200 mA

Digital DC Combination Base Blocks

Outputs are electronically protected.

Cat. No.	1791D-4B4P	1791R-4B4P	1791P-4B4P	1791D-8B8P	1791R-8B8P	1791P-8B8P	1791D-8V8P	1791R-8V8P	1791P-8V8P
Termination Type	Screw-clamp			Screw-clamp			Screw-clamp		
Inputs									
Number of Inputs	4 Sink, Non-isolated (1 group of 4)			8 Sink, Non-isolated (1 group of 8)			8 Source, Non-isolated (1 group of 8)		
Voltage, On-State Input, Nom.	24V DC			24V DC			24V DC		
Voltage, On-State Input, Range	10...30V DC¬			10...30V DC¬			10...30V DC¬		
Current, Off-State Input, Max.	1.5 mA			1.5 mA			1.5 mA		
Outputs									
Number of Outputs	4 Source, Non-isolated (1 group of 4)			8 Source, Non-isolated (1 group of 8)			8 Sink, Non-isolated (1 group of 8)		
Voltage, On-State Output, Nom.	24V DC			24V DC			24V DC		
Voltage, On-State Output, Range	10...30V DC			10...30V DC			10...30V DC		
Current, On-State Output, Max.	0.5 A			0.5 A			0.5 A		
Network Adapter	DeviceNet	Universal Remote I/O	PROFIBUS DP	DeviceNet	Universal Remote I/O	PROFIBUS DP	DeviceNet	Universal Remote I/O	PROFIBUS DP
Network Current Load	200 mA	250 mA	250 mA	200 mA	250 mA	250 mA	200 mA	250 mA	250 mA

¬ Max voltage @ 40 °C; 25V DC @ 60 °C.

Digital I/O Expansion Blocks

- You can add one CompactBlock digital I/O expansion block to any CompactBlock base block (except for 1791D-4B0, which is not expandable) to expand the I/O assembly to up to 32 I/O points. An expansion block cannot be used alone.
- Each block ships with a 4-cm ribbon cable to connect it to the base block. An optional 15-cm ribbon cable is available.
- Removable screw-clamp terminal strips.

Digital DC Input Expansion Blocks

Cat. No.	1791D-16B0X	1791D-16V0X
Termination Type	Screw-clamp	Screw-clamp
Number of Inputs	16 Sink, Non-isolated (2 groups of 8)	16 Source, Non-isolated (2 groups of 8)
Voltage, On-State Input, Nom.	24V DC	
Voltage, On-State Input, Range	10...30V DC¬	
Current, Off-State Input, Max.	1.5 mA	

¬ Max voltage @ 40 °C; 25V DC @ 60 °C.

Digital DC Output Expansion Blocks

Outputs are electronically protected.

Cat. No.	1791D-0B16PX	1791D-0V16PX
Termination Type	Screw-clamp	Screw-clamp
Number of Outputs	16 Source, Non-isolated (2 groups of 8)	16 Sink, Non-isolated (2 groups of 8)
Voltage, On-State Output, Nom.	24V DC	
Voltage, On-State Input, Range	10...30V DC	
Current, On-State Output, Max.	0.5 A	

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Analog I/O Expansion Blocks

- You can add one CompactBlock analog I/O expansion block to any CompactBlock base block. An expansion block cannot be used alone.
- Each block ships with a 4-cm ribbon cable to connect it to the base block. An optional 15-cm ribbon cable is available.
- Removable screw-clamp terminal strips.
- Data Format: 12-bit integer.

Cat. No.	1791D-N4CV2X
Termination Type	Screw-clamp
Number of Inputs/Outputs	4 single-ended inputs; 2 single-ended outputs
Signal Range (Inputs and Outputs)	0...24 mA 0...20 mA 0...10V
Input Update Rate, per Module	100 ms per channel @ notch = 60 Hz
Input Resolution	12-bits
Overall Accuracy	Current Input: ±0.25% of Full Scale Voltage Input: ±0.25% of Full Scale Current Output: ±0.2% of Full Scale Voltage Output: ±0.2% of Full Scale
External Power Required	100 mA @ 24V DC

Accessory Products

DeviceNet Communication Cable Assemblies

Cat. No.	Description	Length (m)	Connector Shell Type
1485K-P1F5-C	Unshielded DeviceNet drop cable assembly with micro-male connector for connection to a flat trunk cable	1	aluminum
1485K-P6F5-C		6	aluminum
1485R-P1M5-C	Shielded DeviceNet drop cable assembly with mini-male connector for connection to a round trunk cable	1	aluminum
1485RS-P1M5-C			stainless steel
1485R-P2M5-C	Shielded DeviceNet drop cable assembly with mini-male connector for connection to a round trunk cable	2	aluminum
1485RS-P2M5-C			stainless steel
1485R-P3M5-C	Shielded DeviceNet drop cable assembly with mini-male connector for connection to a round trunk cable	3	aluminum
1485RS-P3M5-C			stainless steel

Note: You can also use a cable section with no connectors.

Cables and Connectors

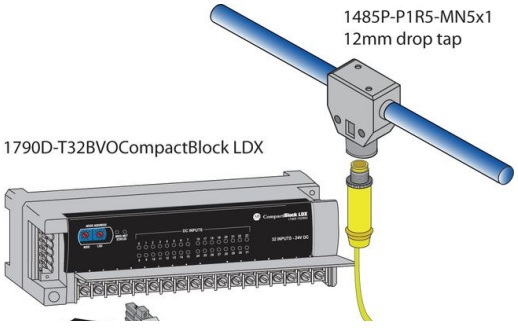
Cat. No.	Description	Qty per Package
1791D-4CMCBL	24V DC block I/O replacement ribbon cable, 4 cm	5
1791D-15CMCBL	24V DC block I/O longer ribbon cable, 15 cm	5
1791D-30CMCBL	24V DC block I/O long ribbon cable, 30 cm	5
1791D-RTBN21	Block I/O replacement terminal block, 21-pin NEMA	1
1791R-RIOSCON	Universal Remote I/O 6-position connector, lock screws (for daisy-chaining)	1
1787-PLUG10R	Connector for daisy-chaining a DeviceNet drop cable	1

DeviceNet Straight 5-pin Open Plug to 5-pin Micro Male Connector

The DeviceNet straight 5-pin open plug to 5-pin micro male connector can be used in place of the 5-position open style plugs for DeviceNet, making it easier to connect I/O modules to the network, as well as reducing potential for miswiring and saving wiring time.

The DeviceNet straight 5-pin open plug to 5-pin micro male connector is compatible with:

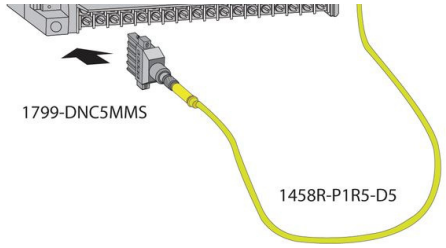
- 1734D POINTBlock I/O
- 1790 CompactBlock LDX I/O
- 1791D CompactBlock I/O
- 1794-ADN FLEX DeviceNet adapter



Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

- 1799 Embedded I/O

Cat. No.	Description
1799-DNC5MMS	Female Open-style DeviceNet Y Adapter (Qty. 5)
1799-DNC100MMS	DeviceNet straight 5-pin open plug to 5-pin micro male connector (Qty. 100)



Copyright © 2011 Rockwell Automation, Inc. All Rights Reserved.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP