



Allen-Bradley

1799 Embedded Discrete I/O Modules

World Class Components for Machine Embedded Applications

Product Profile

Allen-Bradley now offers I/O printed circuit boards for Machine Embedded Applications

These board-level products support the Rockwell Automation Complete Automation Story by providing world class components that enable our customers to now address machine embedded applications with an off-the-shelf solution.

Buy Just What You Need

The family of 1799 Embedded I/O modules is ideal for OEMs looking to buy just what they need to develop their machines. For OEMs who use internal engineering resources or rely on small garage shops for this development, these off-the-shelf components provide a cost-effective alternative. The boards can be quickly incorporated into the development cycle and because a machine typically provides panels and existing enclosures, the OEM saves packaging dollars.

These printed circuit boards provide the OEM a standard interface between the input device and machine actuators. The OEM can leverage existing Rockwell Automation proven design technology and reliability without the added cost of custom-packaged solutions. This is critical for cost-sensitive machine embedded applications.

Communicating on the DeviceNet Network

These boards have built-in DeviceNet communication for linking the machine to the controller. Speed and efficiency are achieved with DeviceNet's change-of-state functionality. In addition, DeviceNet along with the removable I/O connectors allows you to reduce wiring, installation costs, start-up time and downtime.

Local Control with DeviceLogix

DeviceLogix Smart Component Technology allows for control of the Embedded I/O cards' outputs locally, using the status of local inputs along with network inputs and network and module status bits to control the operation of both local and network outputs. This configuration is via a function block editor that is part of RSNetworkx for DeviceNet, Rev 3.0 and later. The benefits of using DeviceLogix in the Embedded I/O cards include quick response, reduced network traffic and a smaller control program.

Zone Control I/O Cards

The new Zone Control I/O (ZCIO) Cards increase the DeviceLogix memory to 72 blocks vs. 48, decrease the card's wiring profile, and provide Zone Interlocking Parameters (ZIP).



Bringing Together Leading Brands in Industrial Automation

ZIP allows one card to consume data directly from up to 4 other ZCIO cards without going through a scanner. These direct communications between conveyor zones are beneficial in a merge or divert application such as high-speed sortation.

Where is it Applied?

Typical applications include: conveyor and sortation automation, robotics I/O, operator interface panels, packaging machines, highly distributed lift applications, semiconductor material handling, and warehouse automation conveyors.

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| Features | Benefits |
|---|--|
| Removable Terminal Block Connectors | Quick installation and repair |
| 10 to 30 VDC Operation | Meets broad application needs including interface with sensors, valves, etc. |
| Input delay times | Assures proper contact closure |
| Output overload/over-temp and short circuit protection | Eliminates failures due to wiring mistakes or damaged loads and thus maximizes system run time |
| Output over-voltage protection | Same as above |
| Isolation between I/O and DeviceNet | Maintains network power quality and reduces network power requirements |
| Watchdog circuit de-energizes outputs if hardware faults | Adds protection for reliable operations |
| Autobaud detection provides automatic network synchronization | Eliminates start-up/replacement network baud rate conflicts and hence reduces maintenance and replacement time |
| HW or SW settable node address | Reduces installation costs with node address flexibility |
| DeviceLogix Technology | Provides high speed "smart I/O" local control functions |
| Optional Hardware Components | Buy "Just What You Need"-Lowers cost |
| 10x10 Card Dimensions | 162.56 mm x 50.8 mm x 32 mm |
| 16x16 Card Dimensions | 187.96 mm x 77.85 mm x 25 mm |

24 VDC Embedded I/O Modules

| I/O Module | Description |
|---------------|---|
| 1799-D10U10V | 24 VDC 10 universal input,10 sinking output module |
| 1799-D10U10VL | 24 VDC 10 universal input,10 sinking output with DeviceLogix |
| 1799-D10U10B | 24 VDC 10 universal input,10 sourcing output module |
| 1799-D10U10BL | 24 VDC 10 universal input,10 sourcing output with DeviceLogix |
| 1799-D16U16B | 24 VDC 16 universal input,16 sourcing output module |
| 1799-D16U16BL | 24 VDC 16 universal input,16 sourcing output with DeviceLogix |
| 1799-ZCIOV | Zone control I/O with sinking outputs |
| 1799-ZCIOB | Zone control I/O with sourcing outputs |

| Hardware Options | Description |
|------------------|--|
| 1799-BRKD | DIN rail brackets with screws (2 brackets; 4 screws) |
| 1799-COV20 | Clear plastic cover for 20 pt. board; 4 stand-offs/4 screws |
| 1799-MP20 | Plastic mounting plate/4 screws for 20 pt. board |
| 1799-12SPCON | 12-position gold-plated I/O mating connector (2 per package) |
| 1799-DNETCON | 5-position open style plug for DeviceNet |
| 1799-AUXCON | 2-position plug for auxiliary power |

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