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Rockwell Automation introduces the Allen-Bradley POINT I/O™ system, making industrial automation easier than it has ever been before by offering such a simple I/O design.
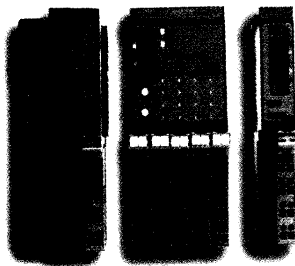
A Snap To Apply

The POINT I/O system is so easy.
It installs easily by sliding together.
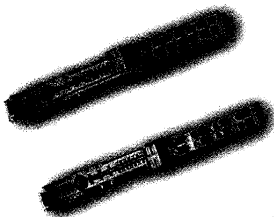It pulls apart easily for maintenance and troubleshooting. It locks into place for a secure fit.

Choose Your Network Communication Interface

- DeviceNet interface
- DeviceNet interface with 16 points of integrated I/O
- DeviceNet adapter

Choose Your Own Termination Style

- Spring clamp
- Screw

Choose Your Own Termination Base

- One simple design

Begin "clicking" your system together on the DIN rail with the dual groove design that provides easy assembly and guidance for insertion and removal. As you insert each base, realize you are building the backplane bus and power distribution system. The bi-directional backplane bus connection utilizes a one-piece design for durability. Most importantly, the bus connection's contacts are gold plated with 30 micro-inches of gold for long term reliability – no flaking or corrosion after a short period of use. That gives you a longer connection life and higher reliability over standard gold flashed and tin-plated contacts.

Color is the Key

The POINT I/O system features simple color-coded designs, making it easier to install and maintain:

- **The orange mechanical key slot ensures that a given I/O type must align with an 8-position key for proper insertion. This keeps modules from being applied incorrectly or exposed to incorrect signal levels.**

- **Field power distribution modules are distinguished by a dark gray color. The field distribution module allows you to separate analog signals from digital signals, inputs from outputs, sub-system functional partitioning and system partitioning.**

- **The terminal base and terminal strips are a light gray. With the I/O modules installed, each assembled piece is easily identified and can be differentiated by the communication interface and field distribution power.**

A Speedy and Simplified Approach

- **Wiring is simplified and designed to make your installation easier with removable pieces, such as the removable terminal strip, and providing a separate terminal for every wire.**

- **You can wire your system by holding the terminal strips in your hand or while mounted to a panel.**

- **You can decrease your system checkout time by prewiring our removable terminal strips.**
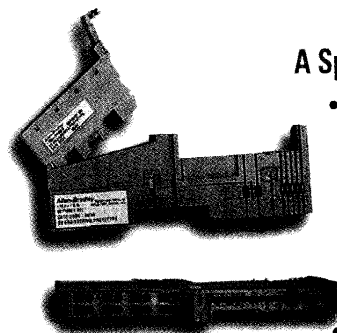
Included in the design of the terminal strips is the tunion (or latch) that not only locks the terminal strip and I/O module in place, but also provides a mechanism for removing the terminal strips without grasping the wiring. This feature further enhances the benefits of the POINT I/O system by reducing the risk of reliability issues that can occur by pulled wires while maintaining your installed system.
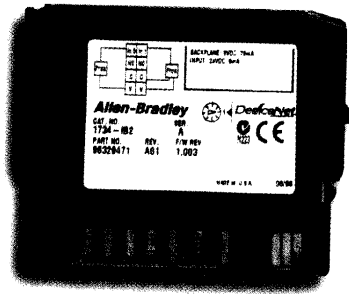
In addition to these easy features, we've included a wiring diagram, module specifications, certifications, catalog number, series and revision information on each I/O module label. This feature obviously facilitates easy inmital installation, but more importantly, long after the documentation is "misplaced" — you still have the correct wiring diagram and specifications with each I/O module. We've also included a removable label for each I/O module, which allows you to easily identify location, channel and module descriptions.

Cleverly Coordinated

Once you've chosen POINT I/O to address the granular I/O needs of your application, you may decide to add a few points of I/O to expand your systems overall capabilities. When you do that, you don't have to re-map your I/O, so we made it easy for you.

With POINT I/O, you can map your I/O according to an electronic address. This address can be linked directly to a physical location. This makes it easy to determine I/O status and diagnostic feedback from your HMI screen and relate it directly to a specific POINT I/O module - this saves you time, money and troubleshooting of your system over the life cycle of your installation.

How To Get From Here To There

To pull this all together, we've made configuration of the I/O modules easy using RSNetworx™. RSNetworx allows the user to simply ID (identify) the network and then simply configure the I/O modules. The state-of-the-art design consists of terminal bases, I/O modules, power supplies and network adapters that simply click together to complete an easy system, which translates into making your application simple to configure.
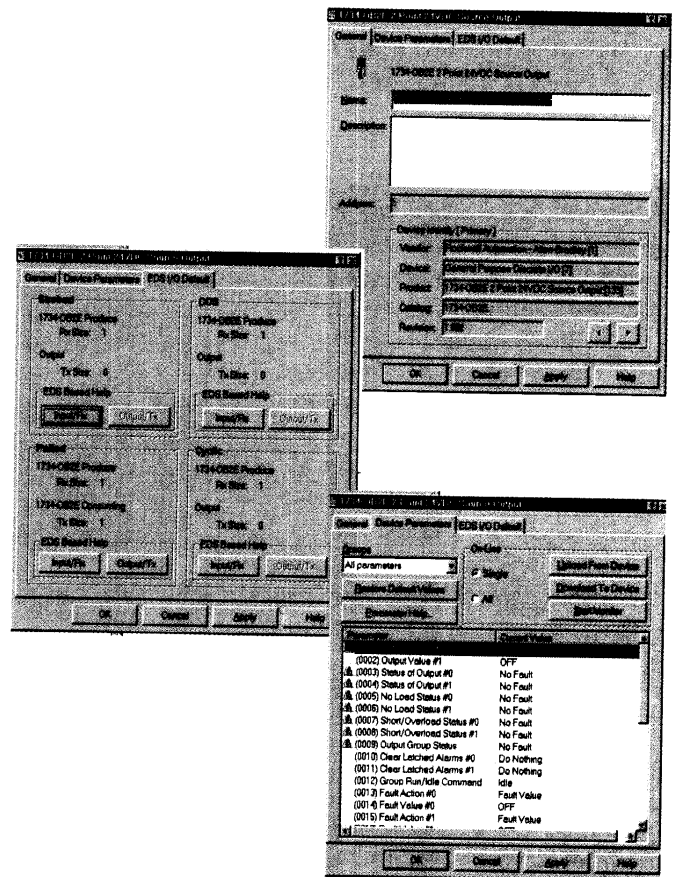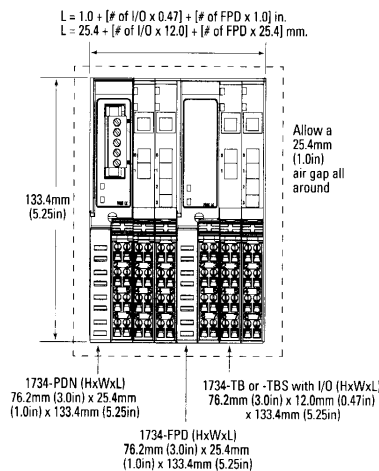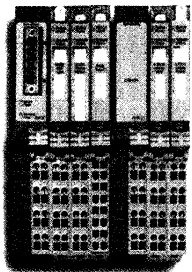

Global certifications ensure that this product is universally applicable and getting support for your POINT I/O solution is easy.
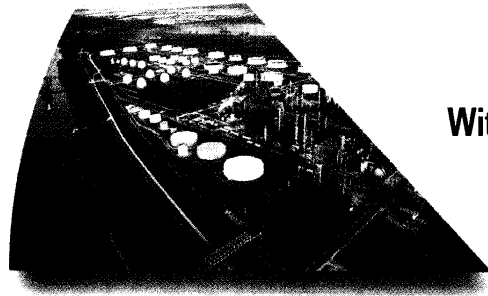
Rockwell Automation's introduction of the new Allen-Bradley POINT I/O™ system is allowing more efficiency to be built into a variety of applications. With the need to be more productive and less wasteful in today's industrial environment, we've designed a product that will allow you to do that while maintaining a flexible and quality system.

Designed With Efficiency In Mind

The POINT I/O system features just-what-you-need granularity by reducing the typical installation design by 10-25% and thereby saving you 10-25% on the size and cost of your complete system. With up to four points of I/O per module and as low as 3mm per channel, if you need to expand your system, you may do so efficiently with just the right granularity and mix of I/O types. The bottom line is that you get the lowest per-used point cost with POINT I/O.

Good Things Come In Small Packages

Not only does the POINT I/O solution allow you to precisely specify the right amount of I/O for your application needs, system efficiency gains include reducing the installation space requirements. As new modular approaches to manufacturing are adopted, Control and Marshalling cabinets have all but been eliminated in favor of on-machine junction box mounted I/O. The small footprint of POINT I/O (12mm W x 75 mm H x 130 mm L or _" W x 3" H x 5_" L) and vertical insertion design further drives down acquisition costs and efficiently increases valuable space utilization.

$$L = 1.0 + [\# \text{ of } I/O \times 0.47] + [\# \text{ of FPD} \times 1.0] \text{ in.}$$
$$L = 25.4 + [\# \text{ of } I/O \times 12.0] + [\# \text{ of FPD} \times 25.4] \text{ mm.}$$

Allow a 25.4mm (1.0in) air gap all around

133.4mm (5.25in)

1734-PDN (HxWxL)
76.2mm (3.0in) x 25.4mm
(1.0in) x 133.4mm (5.25in)

1734-TB or -TBS with I/O (HxWxL)
76.2mm (3.0in) x 12.0mm (0.47in)
x 133.4mm (5.25in)

1734-FPD (HxWxL)
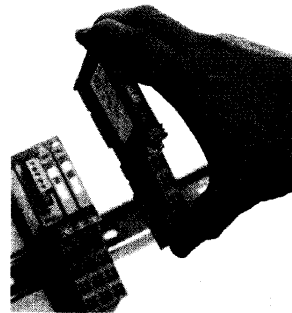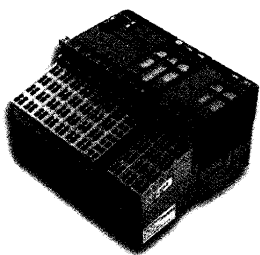76.2mm (3.0in) x 25.4mm
(1.0in) x 133.4mm (5.25in)

This compact size facilitates ease of use in multiple orientations without de-rating the system while maintaining compliance with IEC 1131-2. You can mount the system just about anywhere and in any orientation without affecting system performance. Furthermore, the low turn-on voltage facilitates SCADA/RTU installations and application environments where reliable power is a concern.

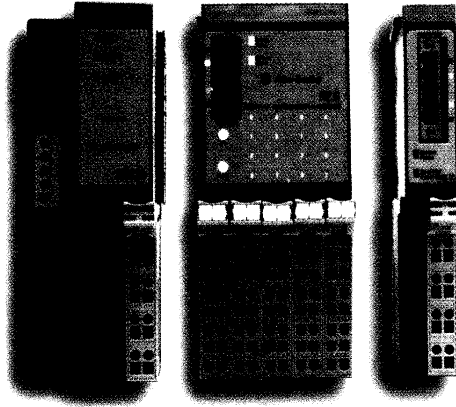## The Secret is in the Way POINT I/O is Designed

Installation efficiency gains are further realized by way of a "no tools needed" design approach. The entire system clicks together on a DIN rail by only using your hands. Once the modules are inserted and powered is applied, Sequential Auto Addressing (SAA) allows you to commission multiple modules at one time. The POINT I/O modules will auto address themselves in order, corresponding to their physical location for easy installation, commissioning and long-term maintenance.
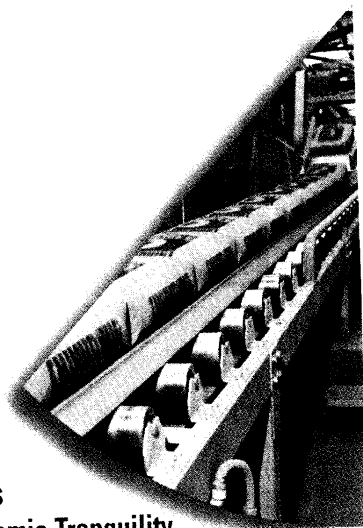
Made to Last - and Last - and Last

With POINT I/O, you know your system will be working effortlessly with our proven diagnostics, our true Removal and Insertion Under Power (RIUP) capability, and our Auto Device Replace (ADR) functionality. These combined benefits provide you with a reliable system capable of live maintenance. By maximizing system uptime and minimizing system repair time (Mean Time To Repair-MTTR), POINT I/O contributes to a more efficient manufacturing and distribution environment.

Meets Any Price

In 2-10 I/O point applications, such as checkpoints, diverters, and handshaking between systems, POINT I/O addresses the issue of efficient network access by providing multiple DeviceNet communication interface options with multiple price points and levels of functionality.

These options give you the best value and functional specifications using the POINT I/O modular and granular design.

Rockwell Automation's commitment to technology leadership brings you Allen-Bradley's new POINT I/O™ product line, designed to maximize the ergonomic benefits of a Complete Automation™ system with the best technology and services available in the world.

Think of it as Ergonomic Tranquility

The modular design of POINT I/O allows you to select the right mix of I/O for a given installation. The last thing you want in a modular I/O system is poor ergonomic design that can result in high installation and commissioning time and costs. We'll show you how POINT I/O addresses customer requests for improved ergonomic design.

A Little Touch that Means a Lot

A hands-on, quick "no tools" vertical or horizontal installation maintains 1131-2 compliance while providing for ergonomic installations that are convenient to your application and maintenance requirements.
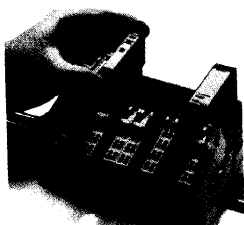
Starting with the DIN-rail disconnect system. This gives you the ability to remove I/O modules and terminations independently without interrupting adjacent components of your system's installation and providing efficient use of available machine-mounted space.

The ergonomic base design provides vertical insertion and removal of bases for easy field expansion. Vertically inserted bases are considered superior due to the ease of installation and minimal installation space utilized – especially when space is limited, such as in a safety gate box or pushbutton panel.

A Vivid Accent

A very distinguishing benefit of POINT I/O's ergonomic design is that all user-adjustable features are clearly identifiable by being color-coded orange:

- **Orange mechanical keying protects your installation.**

- **Orange DIN rail lock – in the open position, the I/O module cannot be inserted. The DIN rail lock mechanism includes a slotted extension on the bottom for resetting the lock with a screwdriver or the twist of a finger. An audible "click" is heard when the locking mechanism engages on the DIN rail.**
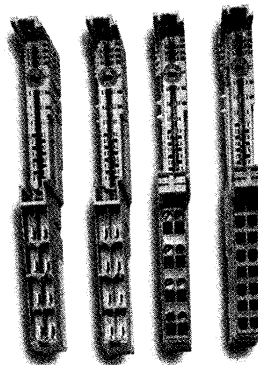
All communication and field power distribution modules are a dark gray color. You will be able to visually identify power segments to simplify any necessary partitioning and maintenance of your POINT I/O system.

All I/O bases have a light gray color for easy visual inspection of wiring during installation, commissioning and maintenance. You don't want to create more problems during troubleshooting operations and the light gray differentiation will help prevent that.

The Perfect Combination of Form and Function

The wiring terminals feature top mounted wire insertion for easy installation and maintenance. This design also reduces the distance between the wiring tray and the bottom of the I/O base resulting in tighter packing efficiency without compromising ergonomics.
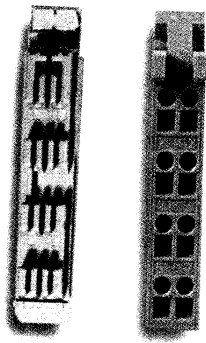
All terminals are numbered near the screw or spring terminals, on top and underneath, for field wire and device testing. This ergonomic design reduces wrist action required to check field wiring. We've also keyed the removable terminals to prevent incorrect alignment and/or insertion while vertically or pivotally inserting into place.

The trunion, or latch on the removable terminal strip is used to lock the terminal strip and I/O module in place with an audible "click". The trunion is also used as the mechanism for easily removing the terminal strip without grasping the wires (can lead to reliability trouble) and for identifying the terminal location in the system based upon physical location or address.

By numbering the "Node" box on the I/O module with an address and inserting two 5x5 markers with the identical address on the removable terminal base (RTB), you simplify installation, commissioning and maintenance of your POINT I/O system.
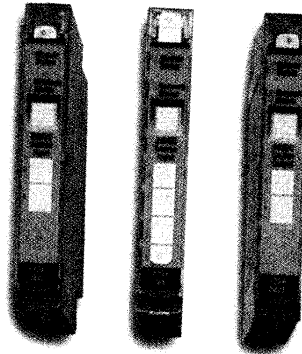
Anywhere, Anytime, Anyplace

Diagnostics are divided into three categories; system-level, node-level, point-level. All status and diagnostic information is reported back over the DeviceNet communication interface whether polled, cyclic or change-of-state. The easy-to-read LED control status indicators tell you everything you need to know anywhere, anytime, or anyplace, for the utmost security and efficiency.

System-level (network dependent) and node-level diagnostics with the DeviceNet communication interfaces include:

- **Network status LED indicates the health of the backplane on the network as dictated by the network specifications**

- **Module status LED indicates the health of the block as dictated by the network specifications**

- **Point LED indicates I/O status (ON/OFF or fault/diagnostic)**

- **Off-line node recovery**

Point-level diagnostics with the DeviceNet communication interfaces include:

- **LEDs indicate short-circuit for digital outputs**

- **LEDs indicate short-circuit and open-wire for analog I/O**

- **Polled, cyclic and change-of-state I/O**

- **Configuration consistency check**

- **Auto Device Replace (ADR)**

- **Multiple I/O assemblies**

- **Reset faulted output with I/O message**

Whether you supply complete automation machinery, sub assemblies, or islands of automation, and optimum flexibility and low cost of ownership are imperative, POINT I/O technology is the ergonomic choice.
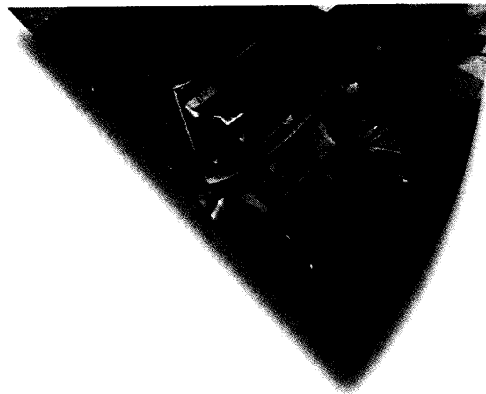
Knowing that an economic advantage and security is important to Rockwell Automation customers, Allen-Bradley's new POINT I/O™ product line was designed to work with the cost-conscious manufacturer in mind.

Isn't it Time You Stepped Up to a New Level of Value?

POINT I/O is the economical I/O solution needed into today's cost sensitive industrial environment. That's why wiring design is an important feature of the new POINT I/O system for centralized automation systems. By mounting the I/O on the machine and /or in the field-mounted junction box, you've eliminated the control cabinet, marshalling cabinet and distribution panels. now you can save 50-75% with the POINT I/O system in comparison to the traditional centralized I/O system.
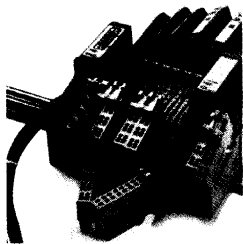
A Perfect Fit that Saves You Time and Money

The system's installation design is small and channel densities are as low as 3mm wide with POINT I/O. Now you can occupy the same space or less in the junction box-mounted termination systems with these combined features.

The removable wiring system allows you to commission, troubleshoot, calibrate, and diagnose your system quickly and efficiently. This results in a significant cost and time reduction - often calculated at 70% when compared to traditional machinery.

From Deluxe to Budget

Since you tailor the solution to the field devices in any given location, you are not paying for unwanted I/O channels. You pay only for what you need. For those instances where network access for a few I/O channels is prohibitive, there are three levels of DeviceNet communication interfaces offered in the POINT I/O system designed to match your exact requirements.
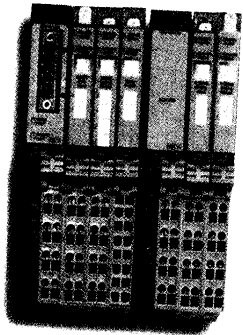
The first DeviceNet communication interface option that gives you the most value and performance of network options is the adapter-level interface (1734-ADN). This connects up to 63 I/O modules of any density and presents the system to the adapter as a single node. This solution provides physical address selection for easy installation and long-term maintenance.
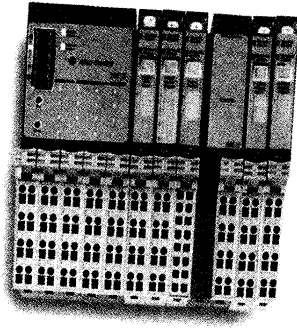
The second DeviceNet communication interface option integrates 16 digital I/O points of 120V ac or 24V dc configurations into a single package (1734D or POINT Block I/O). Outputs are available with solid state, triac or relays. As with the adapter, this solution provides physical address selection and may be expanded with any POINT I/O modules, however each additional POINT I/O module on this interface is seen as an individual node on the DeviceNet communication network.

The third option of DeviceNet communication interfaces is the most economical DeviceNet interface that provides the lowest connectivity cost than any other network. This interface is the most economical for highly distributed, mixed signals and low I/O point count solutions because each module is seen as a single node over the DeviceNet communication network.

Best of all, POINT I/O is compatible with any of these DeviceNet interfaces and can be used together to enhance and increase your system installation benefits provided by a premier I/O solution with many cost and performance advantages.