

ControlEdge Universal I/O

Product Information Note

ControlEdge™ Universal I/O improves your project's performance by simplifying the process control system infrastructure when using ControlEdge controllers. Honeywell's innovative I/O solution provides enhanced flexibility in the design and implementation of control systems, while reducing system footprint, wiring, spares and delays due to late changes in an easy and cost-effective manner.

Introduction

The introduction of the Universal Process I/O module adds another key capability to Honeywell's innovative, award-winning and proven ControlEdge™ technology. Leverage Honeywell's experience in process control technology with more than 25 million channels in operation across the globe – by applying Universal I/O to the ControlEdge family of controllers.



Universal Channel Technology

Honeywell is the first to use Universal Channel Technology to completely liberate safety and process I/O, as well as the control cabinets from channel type dependency. This practice offers flexibility in I/O type, eliminating the need for custom hardware alignment with different I/O configurations. Using Universal Channel Technology allows the cabinets to be standardized, because field signals can be connected to any I/O channel.

Universal cabinet designs significantly reduce engineering cost and schedule when applied broadly across a project. This approach reduces or eliminates marshalling, and more importantly, allows immediate configuration – without the need for additional specific hardware. It also simplifies engineering and configuration during the design stage of a project, and can save up to 33% of the installation costs. Late configuration changes can be done through remote access (rather than having someone manipulating hardware in the field), so changes can be handled in minutes rather than days.

The Universal I/O solution delivers a greater level of flexibility by enabling continuous changes in system design at the software level.

Benefits

- Allows for prepackaged solutions for faster project execution
- Enables Honeywell's LEAP™ Project Execution for a leaner implementation process
- Adapts to I/O changes late in the design, mitigating schedule risks
- Supports remote location deployment, thereby reducing cables and cabinets
- Simple rack mounting
- Reduces the spares needed on site
- Makes maintenance easier

Features

Universal Process I/O provides the common benefits of the ControlEdge 900 I/O family and introduces the following new features:

- 16 Universal Channels per module
- Each channel individually configurable as AI, AO, DI or DO
- HART 7 support for AI & AO
- True soft configuration with no additional hardware needed to switch I/O configuration
- Local and remote deployment capability
- Easy rack mounting
- Extended temperature range (0 to +60 Deg C)

Reducing / Eliminating Marshalling

The Honeywell Universal Process I/O solution re-defines the way to design, engineer, install and commission a process control system. Universal I/O delivers the industry trend of virtualization (in this case by insulating the interface between the control system and the plant instrumentation) for the first time at the control system I/O level. This makes implementation a more flexible experience and reduces overhead costs.

The Universal I/O solution delivers a greater level of flexibility by enabling continuous changes in system design at the software level. Universal I/O adds no additional hardware requirements or changes at any stage in the project.

With Universal I/O deployment, field wires can be terminated on any channel regardless of signal type. This eliminates the scrambling needed in conventional marshalling approaches. This practice reduces the hardware complexity around installation, commissioning, and maintenance of the system. Savings on marshalling cabinets, inter-panel wiring, cabinet space, power requirements and the traditional deployment time are realized from utilizing Universal I/O.

SMART Engineering

Universal I/O enables taking engineering efficiency to the next level. Universal I/O enables standard packaging options with standard hardware drawings which are repeatable with no need to create separate cabinet layouts, wiring diagrams, and power and heat calculations. The LEAP engineering approach can save precious hardware engineering hours, reduce errors by delivering a standard design, and substantially reduce acceptance testing, while providing the flexibility to change the I/O configurations at any stage of the project.

Universal I/O also allows delaying the design freeze dates, without impacting the project schedule, bringing the best of both worlds together – standardization & flexibility.

Quick Install and Commission

Installation and commissioning is the most dynamic and challenging phase of a project's lifecycle due to late changing requirements and fixed project deadlines and budgets. Using Honeywell's LEAP Universal I/O provides much-needed flexibility to any project and allows for any changes in cable schedule or field instrument without the need to change terminations on the I/O modules. LEAP combines Honeywell Process Solutions proprietary hardware and software, virtualization, and cloud engineering to give users greater scheduling flexibility while reducing risk and total automation costs by up to 30 percent.

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This approach reduces the schedule risk and helps accelerate the commissioning toward early start-up for early returns, despite late changes.

Easy Maintenance

Maintenance departments are under ever increasing pressure to reduce their budgets year over year. The Universal I/O module reduces equipment needs because there is no need for custom hardware with different I/O configurations. The Universal I/O module replaces four conventional I/O modules (AI, AO, DI and DO). The result is significant savings related to spares inventory and associated holding costs. Universal I/O greatly reduces the complexity for maintenance personnel during repairs because only one module type is required.

For More Information

Learn more about how ControlEdge™ Unit Operations Controller can improve performance; visit www.honeywellprocess.com/UQS or contact your Honeywell Account Manager, Distributor, or System Integrator.

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