

# INNOVATION UNIFYING THE CONTROLLER FAMILY OF THE FUTURE

C300 PM

RUN

 Power

 Status

Controller  
C300PM




 Power

 Status

Power Backup  
Module  
C300PM



 Power

 Status

Remote  
Hardened  
Mux



# LEVERAGE ALL THE POSSIBILITIES OF A MODERN, UNIFIED PROCESS CONTROL PLATFORM

As a global leader in process control and automation, Honeywell has been committed to continuous technology evolution for over 40 years. This approach has resulted in key innovations helping customers to achieve operational excellence, capture value, and maximize the return on technology investments. From the introduction of the Process Manager (PM) in the 1980s, to the Advanced Process Manager (APM) in the early 1990s, the High-Performance Process Manager (HPM) in the late 1990s, and most recently, the Enhanced High Performance Process Manager (EHPM), Honeywell has continued to advance its control solutions to keep pace with the demands of industrial operations around the world. Today, Honeywell has taken its best-in-class technology a step further by offering the true process controller of the future with all the features customers want in a single, integrated device.



## LISTENING TO CUSTOMERS RESULTED IN THE IDEAL SOLUTION

At Honeywell, we're focused on listening to customers and understanding their unique process control requirements. We're dedicated to meeting their needs with control solutions that are cost-effective, scalable and offer a low total cost of ownership. Our customers asked:

### **Simplify the Technology Upgrades**

Customers asked for a control solution that enables users of the proven EPHM solution, which integrates the control environment of our TotalPlant™ Solution (TPS) and TDC 2000/3000 systems, to take advantage of the same advanced features offered by our state-of-the-art C300 controller. In response, Honeywell has introduced the C300PM—the ideal solution for plant owners/operators seeking to easily adopt new technologies in a familiar package, as well as those with a mixture of EHPMs and C300s that want a modern, unified controller platform. With this flexible solution, Honeywell supports the decades of valuable customer control strategies throughout their lifecycle. There is no need to change Advanced Process Control (APC) and base regulatory control strategies, rebuild points or modify operator display graphics. Instead, you can focus on investments with the highest return.

### **Extending Existing Investments**

The C300PM shares hardware elements with other members of the C300 controller family and revitalizes the controller by resetting the clock and providing a natural evolution to your existing system to the latest and secure technology. Companies undertaking plant renovations or unit expansions can now upgrade their controller installed base with a solution that provides a common engineering environment and eliminates the need to completely replace existing hardware.



## **THE BEST OF BOTH WORLDS FOR YOUR PROCESS CONTROLLERS**

For the Honeywell installed base, the C300PM provides the best of both worlds—it combines the features of the EHPM and C300 in an EHPM form factor. This solution enables users to seamlessly evolve their EHPM installation to gain access to the most advanced Experion PKS control functions and capabilities.

### **Control Execution Environment (CEE)**

The C300PM employs Honeywell's deterministic Control Execution Environment (CEE), which executes control strategies on a constant and predictable schedule. The CEE is loaded into the C300PM controller, providing the execution platform for a comprehensive set of automatic control, logic, data acquisition and calculation function blocks. Each function block contains a set of pre-defined features such as alarm settings and maintenance statistics. This approach guarantees consistent process control strategy execution.

### **Advanced Batch Automation**

By upgrading to the C300PM, EHPM users no longer have to develop custom functionality to obtain the same level of performance as the C300 controller in demanding applications such as blending and batch processing. They can take advantage of increased processing speed for their critical control loops. Peer-to-peer communications between different generations of controllers helps to optimize overall system performance.

### **Custom Algorithm Blocks (CAB)**

The C300PM solution utilizes Custom Algorithm Block (CAB) functionality, which leverages user-defined algorithms and data structures to greatly reduce the effort required to create complex and efficient control strategies. Control strategies created in CAB work just like other function blocks in Experion controllers. CAB function blocks can be instantiated as required to save time and effort in replicating and expanding processes.

### **Experion HIVE I/O Network**

The C300PM also incorporates the Experion PKS HIVE (Highly Integrated Virtual Environment) IO HIVE, which provides a fault-tolerant, high-speed field network that allows the controller to communicate with distributed Universal I/O (UIO) and Series C I/O. In addition, the C300PM supports many leading industrial communication protocols, including Peer Control Data Interface (PCDI), Profinet, EtherNet/IP, OneWireless™, FOUNDATION Fieldbus and Profibus.

## **MIGRATE ON-PROCESS TO PRESERVE YOUR INTELLECTUAL PROPERTY**

Honeywell responded to customer requests for a secure and reliable solution for controller migration. With the C300PM, users can retain decades of engineering configurations and focus on the new strategies that offer the most value when upgrading from the PM family of controllers. This solution eliminates concerns about changing the controller platform, modifying control strategies, and replacing I/O devices.

### **Proven and Familiar Migration**

Honeywell provides on-process migration for easy access to valuable new capabilities without unnecessary downtime and production losses. We deliver all the tools and services needed to address cost, risk, and resource issues. With Honeywell's assistance, EHPM users can take advantage of a familiar migration technique to C300PM, which allows them to preserve their valuable intellectual property without having to deal with issues such as rewiring, system reconfiguration and graphics migration. Migration can be completed without the need for a shutdown for controller replacement. Conversely, plants that have not installed the EHPM can go directly from the HPM to the advanced features of the C300PM as part of a simple, painless on-process migration.

## **SIMPLIFY CONFIGURATION WITH A SINGLE ENGINEERING TOOL**

With a legacy controller installation, users typically performed text-based configuration for control functionality and Control Language (CL) programs in the native Window environment. Moreover, different tools were required to configure different generations of controllers with no consistency in the user experience. The text editor technique is not desirable for a new generation of engineers, who are accustomed to utilizing the latest tools and technology.

### **Unified Engineering Environment**

Honeywell has established a unified engineering environment where the same engineering tool—Control Builder—is used to configure the C300PM and C300 controllers. Engineers can build and configure controller points and create, edit, and compile CL programs using Visual Studio within Control Builder. This capability saves engineering time and eliminates potential conflicts and errors.

## **INTEGRATE HART DATA FOR IMPROVED ASSET MANAGEMENT**

Honeywell introduced the C300PM HART Integration solution to provide a fully integrated capability for field device monitoring, asset management and equipment maintenance. This capability provided an end-to-end solution from the field connection level to the supervisory control level and beyond.

### **Robust Data Pass-Through**

Honeywell customers can now take advantage of the HART data pass-through with the C300PM. Process and status data is automatically populated through I/O cards into the process controller—and finally into standard operator displays—with no additional configuration required. This solution also provides a pass-through capability that enables full asset management using Honeywell's innovative Field Device Manager (FDM) application. The HART integration solution is part of Honeywell's secure migration strategy enabling customers to upgrade to the latest Experion PKS technology while retaining their existing controls investments. Minimally invasive migration involving deployment of the C300PM enables a host of robust HART functionalities.

## **IMPROVE CONTROL PERFORMANCE ACROSS PLANT OPERATIONS**

Honeywell's technology innovation has once again been demonstrated with the development of the C300PM controller—the true controller for the future designed to help manufacturers and other industrial organizations improve control performance across their plant operations.

### **Limitless Potential for Evolution**

The C300PM is an integrated offering that incorporates all the features our customers need to evolve their process control capabilities with the latest Experion PKS technology, while preserving valuable intellectual property and extending the value of their existing control system investments.

The key features and benefits of this solution include:

- Best of the EHPM and C300 worlds for automation end users
- Multi-generational coexistence of process controllers
- Robust peer-to-peer communications and control
- Unified engineering environment and system management
- On-process hardware migration/infrastructure refresh
- Builds on foundation of existing intellectual property
- Enables use of a single engineering tool for controller configuration
- Provides direct HART data integration for smarter asset management

### **For more information**

To learn how Honeywell's C300PM controller can improve performance and safety, visit [www.honeywellprocess.com](http://www.honeywellprocess.com) or contact your Honeywell account manager.

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FUTURE  
IS  
WHAT  
WE  
MAKE IT**

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