

New HI6800 Series Weight & Application Controllers Achieve High Performance through a Dual-Core Processor

At Hardy, generating **Fast, Stable** and **Accurate** weight data is paramount. When we developed our new series combining both weight and application control, a new approach was needed to achieve the kind of performance expected by our customers.

The new HI6800 Series is the first weight controller to market with dual-core processing. A dual-core processor has several advantages over a single-core processor primarily related to improved performance and multitasking capabilities:

- The first core is dedicated to leading-edge digital signal processing (WAVERSAVER® and WAVERSAVER+)
- The second core is dedicated to running feature-rich applications such as continuous material feed control or dynamic check weighing.

Here are some key advantages of using dual core processing in Hardy's Weight and Application Controllers:

Multitasking Performance: The dual-core processor can handle multiple tasks simultaneously because they have two separate processing units. This allows for more efficient multitasking such as running digital signal processing and application control simultaneously without a decrease in performance.

Parallel Processing: Dual-core processor can execute instructions in parallel, with each core working on a different task. This parallel processing capability enhances overall system performance, especially in scenarios where tasks can be divided and processed concurrently.

Improved Responsiveness: Hardy's 24-bit analog to digital converter capable of up to 4,800 updates per second generates a significant amount of data to process which could bog down when running complex applications at the same time. In this case, the additional core helps improve the responsiveness of both signal processing (FAST, Stable and Accurate weight data) and application control. Dual-core processing really shines for the HI6800 Series to isolate digital signal processing while simultaneously responding to user and PLC inputs and triggering instrumentation outputs.

Enhanced Performance in Certain Workloads: Tasks that benefit from parallel processing often experience significant performance improvements on dual-core processor; this becomes especially evident when configuring the HI6800 Series with up to 4 channel of weight and over a dozen of points of I/O. Hardy uses the processor to divide the workload among the two cores, accelerating the completion of resource-intensive tasks.

Optimizing PLC Resources: The HI6800 Series offloads specialized weight application processing from the PLC, enabling both the PLC and the Weight Controller to each do what they do best. The HI6800 Series can serve as a closed-loop weight-based controller while serving up additional data to a PLC for optimizing overall manufacturing processes.

Future-Proofing: As software development trends favor multithreading and parallelism, dual-core processor are better suited to handle the demands of modern applications. This can contribute to better long-term usability and performance as software continues to evolve.

About Hardy Process Solutions (an INDICOR Company)

Hardy Process Solutions has established itself as an industry leader in the weighing automation world by providing highly accurate precision measurements, while seamlessly integrating process weight signals into a Rockwell Automation control system.

At Hardy, we believe that industrial weighing solutions should be EASY to engineer and operate. We believe that simplicity delivers the LOWEST TOTAL COST to own. That's why our solutions are EASIER to install, integrate, commission, diagnose and maintain.