

Monitoring the Quality of Pill Pressing

In business for more than 87 years, a Fortune 500 company has evolved to become a leading manufacturer of tablet presses for the pharmaceutical, food, and chemical industries. Their ability to produce high speed, high precision presses has been the mainstay of the company's success

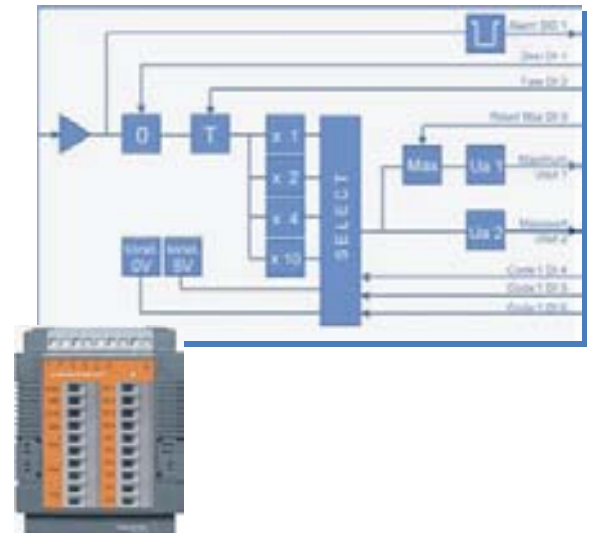
In the case of pharmaceutical pill manufacturing, both high speed (productivity) and high accuracy (safety and effectiveness) are key requirements. Prescription substances (e.g. birth control pills) require exactly 50 milligrams of active substance -- too little and the pill is not effective, too much and the pill could be dangerous to consume. At a production speed of 1,000,000 pills per hour (per machine), physically weighing each pill is simply not possible.



The mass of each pill, however, can be measured -- if the measurement of the pressing force is both precise and quick enough. At 285 pills per second, the machine has less than 4 milliseconds to press the pill, take the measurement, and make a determination on whether or not the pill was pressed correctly. This involves measuring the pressing force of each individual pill, evaluating the quality of this measurement, and sorting out the pills which are out of specification. This entire evaluation process must be completed in less than 1 millisecond. To meet the high demands of this application, the e.bloxx A6-2CF module was chosen.

The A6-2CF module was selected for several reasons:

- High Speed (5000 samples/sec), and High Accuracy (19-bit)
- Built in Signal Conditioning
- Sample/Peak/Hold functionality
- High Speed (1000/sec) Control (Analog Outputs)
- High Stability with Carrier Frequency measurement techniques
- High Noise Immunity
- Modular and Compact Design
- Flexibility, Configurability, & Scalability (for different machines)
- Modular and flexible (different machines)
- Attractive price/performance ratio



The A6-2CF provided the correct mix of performance, functionality, and flexibility all in one 'off-the-shelf', industrial rated package. Also, with full integration capabilities with the other e.bloxx products, the A6 provides the expansion and migration path for any machine that the next 87 years may bring. High performance, made easy.