



In Small Doses

Prosilica GC Camera Used in Pharmacy Automation Solution

Manchac Technologies, L.L.C.



Established in 2006, **Manchac Technologies, L.L.C.** designs and develops advanced pharmacy automation products aimed at long-term care, retail and assisted-living facilities.

The Challenge: Automated Prescription Packaging in Pharmacy Retail

Automation was only recently introduced to the pharmaceutical industry in order to improve on the accuracy, accountability and productivity of prescription fulfillment, while conforming with industry standards.

The Solution: DOSIS Compact Machine Vision Solution

Manchac's DOSIS is a machine that uses computer vision to count pills and package them into bubble-pack containers (blister cards). DOSIS is capable of dispensing up to 60 different solid oral medications at a time. The system is driven by an off-the-shelf PC running a Linux operating system.

Pills are loaded manually into canisters in the front of the machine. DOSIS scans the canisters to determine the location of each medication. The pharmacy's software system sends prescriptions to DOSIS, which automatically dispenses pills into 30-day blister cards, seals and patient labels them.

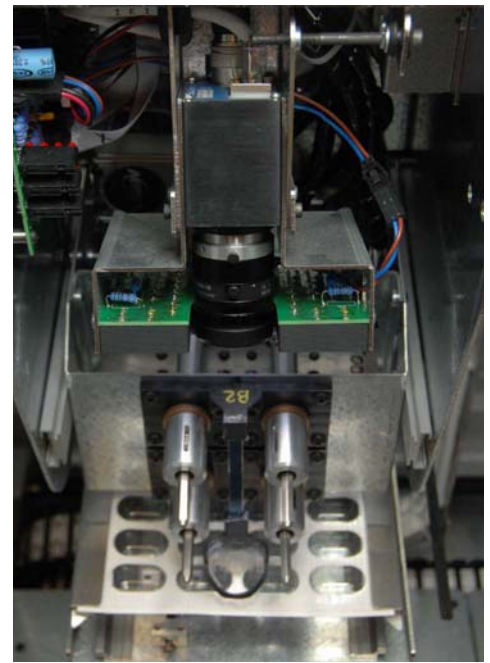


The Camera of Choice: Prosilica GC1020



DOSIS incorporates the XGA resolution (1024x768) **Prosilica GC1020C** color camera with a GigE Vision compliant interface. Manchac chose the GC1020C for its ultra-compact size (33x46x38mm), excellent image quality, and Software Development Kit for Linux.

The GC1020C is fitted with a Fujinon DF6HA-1B (1:1.2/6mm) lens and mounted on to a backplane that is indexed to the 60 different medication canisters locations within the device.



The camera fulfils three functions within the system:

1. Read bar codes to verify the position of each drug canister.
2. Check the positioning of the end-of-arm tooling engagement into the pill canisters for medication dispensing.
3. Provide real-time feedback for Manchac's imaging and control software that meters the actual dispensing process by counting pills out of the canisters.

Because of space constraints, the system uses a custom-designed light ring mounted around the lens of the camera to highlight specific areas of importance to the system.

The camera images at 30 frames per second and uses a 1024x288 Region of Interest Read Out (ROI) setting to define a rectangular sub-region of the image reducing the image data to be processed. Other settings, including exposure and gain, are set programmatically.

Control and Image analysis for all functions is done by Manchac's proprietary software and algorithms. The software was designed in C programming language using the Prosilica SDK for Linux.

Prosilica, Pioneer in GigE Vision Cameras

PROSILICA



Founded in 2003, Prosilica of Burnaby, BC (Canada) is a pioneer of the introduction of digital cameras with Gigabit Ethernet interface in the machine vision market. Prosilica designs and manufactures high-performance GigE Vision digital cameras for a wide variety of applications and is a 100% subsidiary of Allied Vision Technologies since 2008.

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