# Precise Object Measurement in Picking Systems

Compact Laser Profile Sensor Detects Goods for Automated Pharmacies

At a Glance

- Reliable and precise detection of incoming goods on the storage infeed belt

- Compact design and flexible mechanical integration for easy installation in confined spaces

- Convenient parameterization and simple integration into the programming environment

- Output of height profile and 2-D area image

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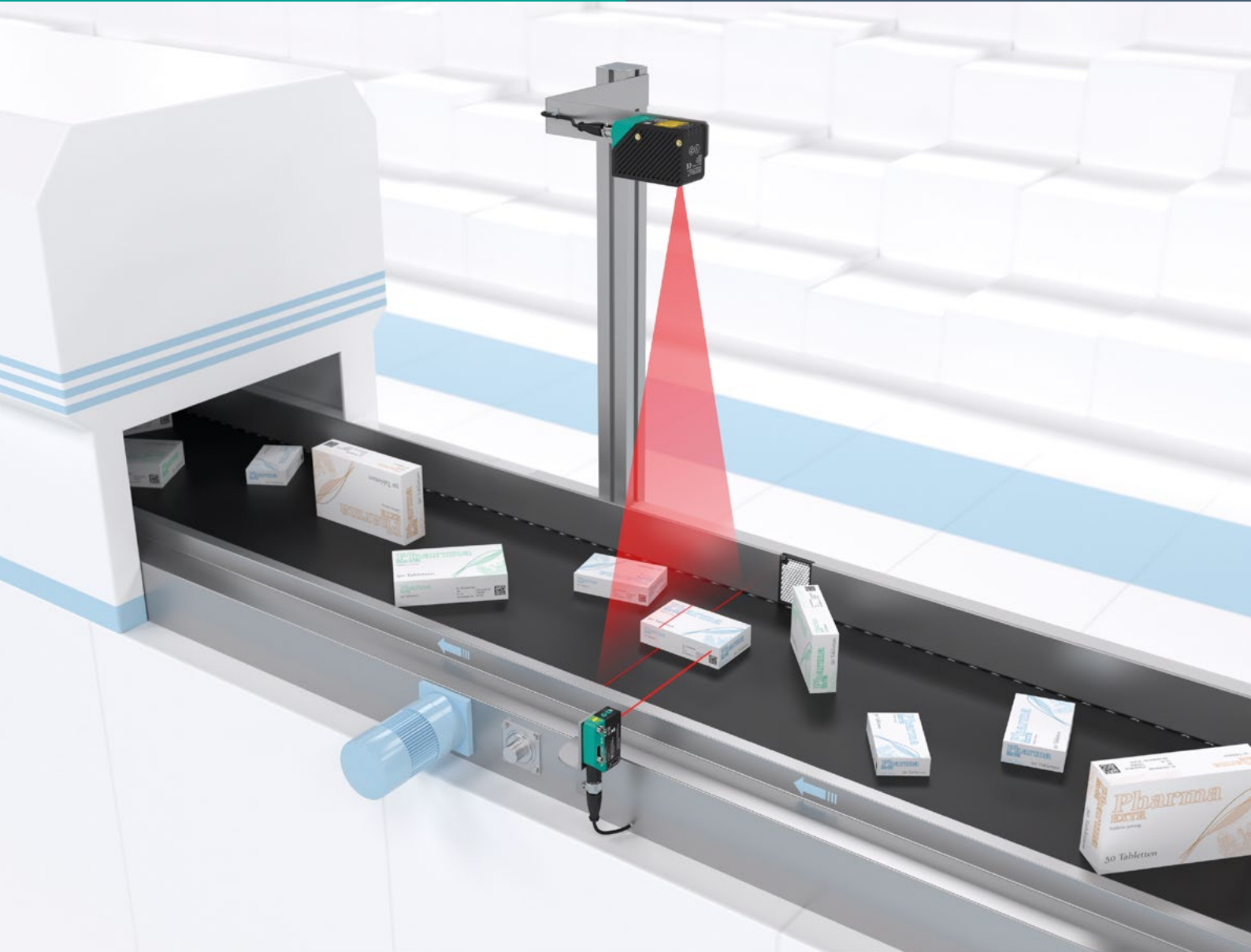
The Application

An automated pharmacy is a picking system in which drugs and other pharmaceutical products are automatically moved into and out of storage. Storage space is usually very limited and must be used as efficiently as possible. Packaging dimensions must therefore be measured precisely during the storage process, for example, while the goods are arriving on the conveyor belt. The size of the packaging can vary greatly.

The Goal

To ensure optimal use of the available storage space, packaging dimensions must be determined precisely. Given that storage space is constricted, it is necessary to use small sensors that allow mechanically flexible installation. The sensors must have a wide sensing range so that they can measure both very small and large packaging. This should be reliable even when there are several packs on the storage infeed belt and one large pack is obstructing the view of a smaller pack. To allow simple integration into a programming environment, an API is required that offers full access to parameterization and supplies output data. An Ethernet TCP/IP interface should enable direct connection to an IPC.

The Solution

The high-resolution SmartRunner Explorer VLE700 laser profile sensor detects the height profiles of differently sized objects reliably and precisely. It is usually mounted above the storage infeed belt in automated pharmacies. The compact design and swivel connector enable installation even in very confined spaces. The sensor sends the height profiles to the IPC via the Ethernet TCP/IP interface. The IPC analyzes the height profiles to determine the packaging dimensions. The supplied DLL allows full access to parameterization and output data.

The Benefits

In addition to providing the height profile output, the unique SmartRunner Explorer laser profile sensor is also able to detect a 2-D area image. This function can, for example, verify detected packaging or output an error image if necessary. The graphical user interface allows intuitive parameterization and simple analysis using height profiles and 2-D area images. This makes it easy to implement the application on an IPC later on. With the help of a supplied application example and detailed instructions in the manual, the device can be integrated very easily into a C# development environment.
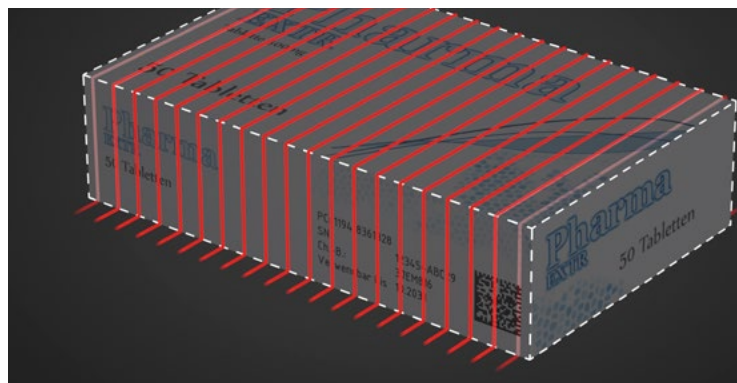
Technical Features

- Height profile output with 960 value pairs in world coordinates
- High-resolution 2-D image output (1280 × 960 pixels)
- Measuring range: X axis 40–345 mm; Z axis 100–700 mm
- DLL for integration into programming environment
- Image and line display on the user interface
- Interfaces: Ethernet TCP/IP, I/O
- Maximum scan rate: 30 Hz
- Laser class 1, IP67 degree of protection

For more information, visit: **pepperl-fuchs.com/px-smartrunner**