Fast and Accurate Package Dimensioning

Ultrasonic sensors evaluate parcels with millimeter precision

The Application

For transport and logistics companies, it is important to know a package's exact size and weight. This ensures that storage capacity is optimized and trucks are not overloaded. To record the volume and weight of packages automatically, companies like Villa & Riva use the Parcelscan mobile measuring table from SIPI. Three ultrasonic sensors from Pepperl+Fuchs take rapid and accurate measurements of the boxes' critical dimensions.

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The Goal

To determine the exact size of packages, a sensor has to evaluate it reliably and precisely. Reflective surfaces and color can affect the measurement. Packages that are wrapped in reflective film and packages that are just a few centimeters wide, must be measured with precision.

The Solution

SIPI Parcelscan features integrated scales to calculate the weight of the goods, while the length of the outer surfaces is determined by ultrasound. In this process, the packages are positioned on the table in a corner that is bordered by end strips on two sides. Pepperl+Fuchs UC2000-L2 series ultrasonic sensors are mounted at ends of strips and record the packages' length and width. The height is detected by an additional sensor positioned above the table. To prevent any cross-talk between the signals of the individual sensors, the UC2000-L2 devices operate in automatic multiplex mode.

The Benefits

The ultrasonic sensors have a range of two meters and detect the outer dimensions of the boxes with millimeter precision. The narrow acoustic beam angle allows the sensors to be positioned close to the table's edges. This means that small packages with an overall length of just a few centimeters can also be measured. Positioning the sensors close to the outer edges ensures that the table can be easily loaded and unloaded.

Further information at
www.pepperl-fuchs.com/ultrasonic
www.sipi.it

At a Glance

- Millimeter reliable detection of packages regardless of color or surface

- Cubic design allows space-saving mounting

- Measurement within one second

- Reliable detection in automatic multiplex mode