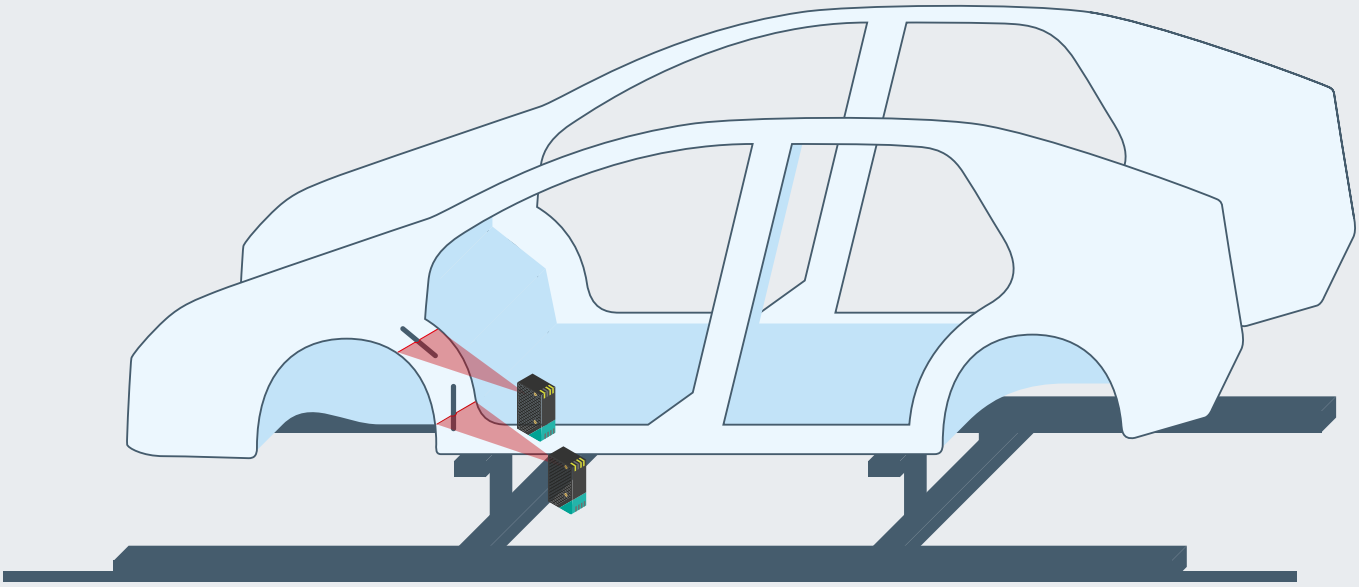
Automatic Detection of Vibration Dampers

Light Section Sensors Verify Presence and Position of Stickies in Automotive Assembly



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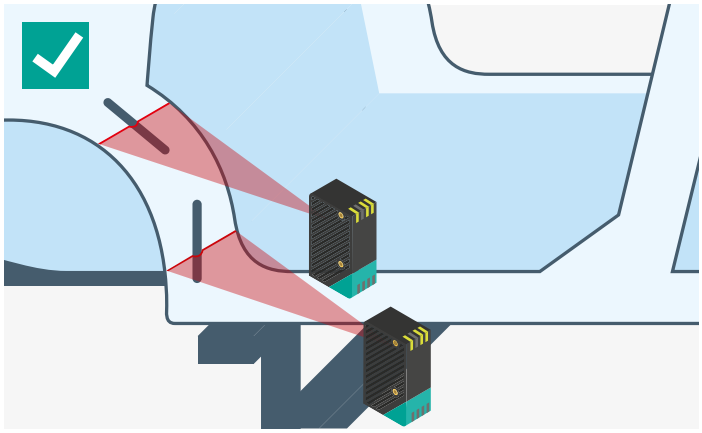

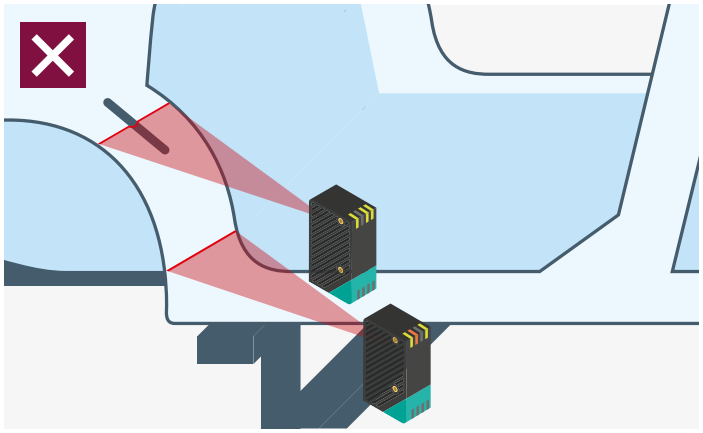

The Application

Silicone vibration dampers—also known as “anti-vibration pads” or “stickies”—are attached between vehicle frames and interior components during automotive assembly. They are glued to various parts of a car frame to decrease noise during vehicle operation. Before interior components are installed, a sensor detects whether stickies have been attached correctly.

The Goals

Vibration dampers must be present and in the correct position before a car’s interior is installed. The stickies must be reliably detected, despite any interference. A signal should be sent to the control system to continue assembly if the stickies are in place or trigger reworking if they are missing.

The Solution

The SmartRunner Matcher is optimized and preconfigured for profile comparison. Sensors are taught the height profile of each sticky. They are then triggered to compare the current height profile to a reference profile. A “good” signal is sent if the profiles are identical. If they are different, a “bad” signal is sent. The sensor is installed at various points along the conveyor line or on a robotic arm. If the sensor is attached to a robotic arm, more objects can be detected and verified by the same device. For larger distances between sensor and target, a megapixel version is also available.

The Benefits

Sensors with light section technology enable reliable detection regardless of surface texture, color, and contrast—without external lighting. The SmartRunner also provides precise X and Z offset data to ensure proper position and orientation of the stickies. Simple configuration makes the devices easy to set up and use. The sensor can save up to 32 profiles, allowing multiple objects to be detected by one device.

At a Glance

- Reliable detection regardless of surface, color, or contrast
- No external lighting required
- Precise X and Z position data
- Quick configuration and commissioning
- Connectivity to all common fieldbuses
- Simple integration into control system

For more information, visit
www.pepperl-fuchs.com/smartrunner