

Intelligent eyes for automation

February 6 2014



Siemens is integrating new object recognition features into its optical identification systems. The solution is based on Simatic code-reading systems and extends its functionality with the help of the software Pat Genius, which is distributed to licensed customers. Code readers identify objects by registering patterns such as dot matrix codes and bar codes. Pat Genius goes a step further by evaluating the camera images recorded by the code readers and identifying entire objects or characters based on their shape. The picture shows the code reader Simatic MV440 in use in automotive production.

Siemens is integrating new object recognition features into its optical identification systems. The solution is based on Simatic code-reading systems and extends its functionality with the help of the software Pat Genius, which is distributed to licensed customers. Code readers identify

objects by registering patterns such as dot matrix codes and bar codes. Pat Genius goes a step further by evaluating the camera images recorded by the code readers and identifying entire objects or characters based on their shape. Fields of application include quality assurance or the control of pick-and-place robots. The inclusion of this functionality in existing code readers is significant because it permits a straightforward integration of object recognition into industrial controls like Simatic, Smotion, or Sinumerik. The data can then be used to control robots, for example.

Object or character recognition systems are used primarily in automotive manufacturing, the electronics or pharmaceuticals industries, and in medical technology. In quality assurance, for instance, they are used to ensure that the correct number of components are installed, to count the parts in a package, or to check print quality and placement of labels. In production, information about the position of objects or the number of parts to be processed can be used to control automatic insertion equipment or assembly robots. In these situations, the data must be fed into the machine controls, and that is now particularly easy with the Siemens system.

Customers who already use Simatic code readers can simply install Pat Genius software to get the [object-recognition functionality](#). Links to Simatic, Smotion, or Sinumerik systems are easily established via existing function blocks or configuration files. The system is trained by means of reference objects, i.e., the users show the system certain shapes. After this, the software can recognize these objects. It can then check whether they are present at a given location and correctly positioned, and it can identify symbols that are already known to it, such as warnings. Just as Simatic code readers are designed for high throughput in industrial production, Pat Genius supports up to 2,500 testing operations per minute for very rapid testing processes. Pat Genius can be installed on all Simatic MVV440 devices with firmware version

6.0 and up.

Provided by Siemens

Citation: Intelligent eyes for automation (2014, February 6) retrieved 3 May 2024 from
<https://phys.org/news/2014-02-intelligent-eyes-automation.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.