Author

Evelyn Märtin is a sales specialist at Turck Germany in Mülheim

Webcode | **more21153e**

Pick-to-light systems optimize manual production processes and reduce the error rate remarkably

User: www.sas-automotive.com

A diffuse mode sensor integrated into the signal light acknowledges the removal automatically

Process Greening

At its factory in Zwickau, automobile supplier SAS Automotive Systems optimizes the production of cockpit modules with a pick-to-light system

SAS Automotive Systems produces cockpit modules for the automobile industry at four locations in Germany. In 2010 the SAS Group produced about four million cockpits. At the location in Zwickau they were looking for new ways to reduce sources of error during the production and composition of the cockpits. SAS Zwickau produces cockpits for the Volkswagen vehicle plant next door. Oliver Graf, jointly responsible for the plant design, describes the process: "About 2.5 hours before delivery time we get the demand requirements and then have to produce and deliver the cockpits in the allotted time." To be able to produce a number of up to 1,300 cockpits a day, one cockpit has to be completed every minute. The mounting time at each of the 40 stations of the line is short.

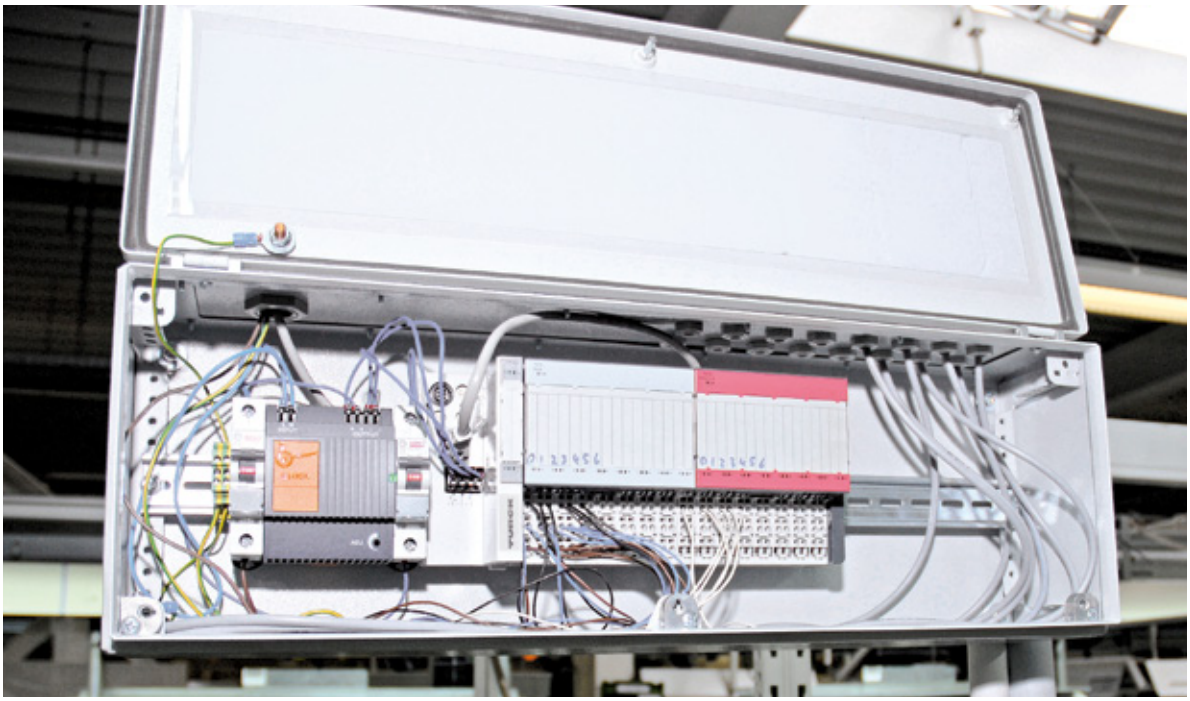
If quality control discovers an error at the end of the production chain, it has to be corrected manually, which is time consuming. Therefore, the easiest way for flawless production is an integrated quality control during the installation process. Before the pick-to-light system was introduced, the assemblers read the respective configuration of the cockpit from an order slip and equipped the cockpit accordingly. Mistakes, especially at the types with rare components, couldn't be completely avoided.

Less mistakes with pick-to-light

With the recently installed pick-to-light system from Turck and Banner, SAS could reduce the mistakes during cockpit mounting remarkably. The system translates the specific configuration of a cockpit into light signals, which show the assembler the needed components in the right order. All output trays were equipped with a signal light and the assembler simply takes a component from the illuminated tray and installs it into the cockpit. The signal light has an integrated light sensor that acknowledges the removal of a component automatically. The system monitors the progress and sends the information to the product line controls; this captures the order completion and releases the light signal for the next order.

Quick read

SAS Automotive Systems produces cockpits for the automobile industry, individually mounted and just-in-time. For the assembler at SAS in Zwickau, Germany, that means, that one module has to be finalized every minute. To improve this work, a pick-to-light system now indicates exactly what component has to be installed in which order. Turcks pick-to-light solution could convince the SAS specialist because of the comprehensive approach consisting of sensors, I/O system and fieldbus gateway, as well as its easy integration into the production line.



Turcks modular I/O system BL20 guarantees a reliable communication to the plant controls via Modbus TCP

> "With other providers you usually have to find your own solution for connecting the production line controls, but Turck provided a complete solution, including I/O system."
>
> **Oliver Graf, SAS Automotive Systems**

An unwanted activation of the light sensor is impossible because of the background suppression set at 100 mm. In addition, the system provides another protection level so if the assembler picks something from the wrong tray, a red light signal indicates the mistake immediately.

The effect of the pick-to-light system is remarkable. Next to the reduction of mistakes, pick-to-light makes the installation process faster; and the assemblers are able to concentrate on the quick assembly instead of having to identify the right components first.

Competitive advantage: system approach

SAS decided to use the solution from Turck for various reasons. One of the main requirements was the automated acknowledgment through a light barrier or alternative sensors. Turck was not the only provider that offered this solution, but what convinced the customer in the end was the fact that the automation specialist from Mülheim offered a solution and also provided the needed hardware for the connection to the production line.

During normal operation, 20 mounting stations got equipped with the pick-to-light system and a K50 signal light was implemented into all relevant trays of the mounting stations. A BL20 I/O system, which was connected over a fieldbus gateway via Modbus TCP to the line control of SAS, is responsible for the signal transfer between lights and controls. Only minor adaptations regarding the software were necessary.

On the way to standard

The SAS plant in Cologne has been using the pick-to light-system for five years now without any problems. As a result, the people in Zwickau knew that the system would blend in perfectly with the utilized line control. Because of the good experiences of the Cologne crew, the optimization process in Zwickau could be implemented confidently.

After the pick-to-light system was connected perfectly in Zwickau, the SAS employees responsible for the plant in Saarlouis now are convinced of this process optimization and shortly the system is going to minimize the error rate during the cockpit assembly at their location too. ■

The light signal marks the box with the component that is next to install


IEN
Europe's leading industrial engineering resource
Your industrial search engine... enter keyword
Search
Register
Log in
News
Products
Applications
Interviews
White Papers
Videos
Datasheets
Events
Directory
IEN Magazine
About
Factory Automation
Hydraulics & Pneumatics
Electronics
Industrial Equipment
Motion Control
Sensors & Transmitters
Test & Measurement
Featured Article
New Industrial Products
Concentric Locking Ball Bearing
For high-speed, high-vibration applications
Representing a concentric-style shaft mount for link-belt ball bearings, Rexnord's Link-Belt Centrik-Lok CL Series normal...
‹ Previous
1
2
3
4
5
Next ›
More
CG Series direct thermal/thermal printers.
Instant compatibility. Instant printing.
Headlines
Crash-safe Battery Protection for Electric Cars
Mass production possible for the first time
Everyone is talking about electric drives, and the scientists from Fraunhofer are also working on them. Engineers have replaced...
Follow IEN Europe
more than just a pretty interface
The G3 Operator Interface Series.
• Connect • Convert • Acquire
• Control • Anywhere
red lion
Product in Spotlight
SEE WHAT YOU'VE BEEN MISSING!
The world's first and only industrial-grade infrared (IR) inspection windows
(Sponsored)
IRISS manufactures the world's first and only industrial-grade infrared (IR) inspection windows. Their patented reinforced...
IRISS, Ltd
Articles with Videos
rotork
WORLD LEADER IN VALVE ACTUATION
MASTERBOND
Custom formulated adhesives, sealants & coatings
BRANDAUER
INDUSTRIAL LITERATURE @ YOUR DESK
Discover the new website
www.ien.eu
#01010 • crossmark.be