



Constant Quality

ROSE Systemtechnik equips assembly line for car engines with special control enclosures

Modern car production with its variety of models requires complex, tightly timed production processes. Assembly-Systems from E. Schmid GmbH in Sonnenbühl enable manufacturers to optimally adapt their production processes to these challenges. With Panel PC in special housings from ROSE Systemtechnik, the production lines are highly efficiently controlled.



Hardly any industry needs to be as flexible as the automotive industry, because the number of car models is rising steadily, while lot sizes are falling. In addition, there are new vehicle types such as hybrid and electric cars, the production of which is only possible by a complete conversion of conventional production technology. These few examples show the tasks faced by the manufacturers - and they make it clear that the efficient organization of the assembly lines is essential for the economic success of automotive groups.

E. Schmid GmbH & Co KG

Since 1960, E. Schmid GmbH & Co. KG has been manufacturing a wide range of automation technology, transfer, assembly and transport systems as well as the associated control units. Each plant is planned and constructed in close cooperation with the customer in order to achieve its production goals in as few steps as possible.

Production line for highly flexible engine production

The focus of the Swabians is on the automotive industry, where the company supplies the majority of its assembly systems. For example, Schmid commissioned a well-known car manufacturer to develop a complete production line for engine production. The demands were high: the customer wanted to manufacture several engine types on a single line in order to increase its flexibility and to be able to shift capacities between individual plants more easily. Schmid's automation experts therefore supplied him with a combination of fully automatic assembly stations and manually operated system components. These included highly flexible screw stations as well as machines for feeding and mounting roller guide levers: these components transmit in the engine the movements of the curves that the cams execute on the camshaft, in a linear movement that acts on the inlet and outlet valves and opens and closes them.

Schmid used state-of-the-art PC-based technology, the so-called Panel PC, to control the assembly line. They not only regulate the manufacturing process by means of a real-time PLC, but also visualize all processes for the worker. A single Panel PC can control both complex automation stations and several combined controllers.



Constant Quality

ROSE Systemtechnik equips assembly line for car engines with special control enclosures

ROSE enclosures enable easy integration of the control electronics

The housing for the Panel PC has been procured by E. Schmid GmbH & Co. KG from ROSE Systemtechnik GmbH in Porta Westfalica for ten years. The company is one of the few suppliers on the market that can also equip the enclosures with the necessary electronics. For the assembly line of the car manufacturer commander SL3000 control housings were used, which were adapted by ROSE to the external dimensions of the industrial PC of Siemens. "Among other things, we integrated in the profiles installation openings for filter fans, various plug-in modules (Ethernet / ProfiNet, USB, socket) and mounting surfaces for our GTK 80 flange coupling," says Jochen Lindemann, ROSE's Key Account Manager Automotive. "The coupling allows a large flange mounting on the housing, is very smooth thanks to the ball bearing and has an open cable channel, which simplifies the installation of electronic components."

Robust and easy to maintain

Mit den Gehäusen von ROSE wurden alle Panel-PCs der Montage-Linie ausgestattet – sowohl die der Automatikstationen als auch die der manuellen Arbeitsplätze. In letzteren enthält der Commander SL3000 die komplette Steuerung mit allen Betriebsmitteln wie z. B. Schützen, Klemmen, Netzteilen, Switches für Profinet- und Ethernet-Schnittstellen und lokaler Steuerungsperipherie. Für den Einsatz an den manuellen Montagestationen eignet sich der Commander vor allem deshalb besonders gut, weil er robust gebaut ist und an der Frontseite eine Öffnung aufweist, über die sich die Elektronik leicht warten lässt.

Ergonomic PC suspension allows fatigue-free working

ROSE housings were equipped with all Panel PCs of the assembly line - both the automatic stations and the manual workstations. In the latter, the Commander SL3000 contains the complete control with all resources such. Such as contactors, terminals, power supplies, switches for Profinet and Ethernet interfaces and local control peripherals. The Commander is particularly well suited for use at the manual assembly stations, because it is robustly constructed and has an opening on the front, which makes the electronics easy to maintain..

Own coating plant and own testing laboratory

ROSE Systemtechnik is one of the few companies in the industry not only to have extensive production - Westfalen also has its own powder coating plant and test laboratory. Thus, ROSE can not only offer its customers every desired case color, but also ensure the quality of its products at any time through intensive controls. Therefore, the choice in industrial applications worldwide increasingly falls on the customized and individually equipped housing from Porta Westfalica.

About ROSE Systemtechnik

ROSE Systemtechnik GmbH was founded in 1969 in Porta Westfalica and, with more than 350 employees, is one of the world's leading innovative providers of industrial enclosure system technology. In the group of Phoenix Mecano AG, Switzerland, the company develops and produces high-quality industrial enclosures and system solutions for the areas of mechanical and plant engineering, automation technology, potentially explosive atmospheres, MSR technology as well as the food and beverage industry. The product portfolio includes standard industrial housings made of aluminum, stainless steel and plastics for individual installations of electrical connection technology and electronic assemblies as well as control and display housings - based on aluminum profile systems and stainless steel materials - for HMI applications, as well as components for explosion protection with distributor housings and control stations for worldwide use in hazardous areas, the petrochemical and chemical industries in onshore and offshore areas.