ELVAC

Reference sheet

Industrial Automation

Reference name: **Electrical installation and control system - Gas tank reconversion project in the lower Vítkovice area**

Supplier:	ELVAC a.s.
Customer:	OCHI-INŽENÝRING, spol. s r.o.
Market segment:	Electrical industry
Year of implementation:	2012

Introductory text:

ELVAC a.s. participated in the project of reconversion of the gas storage facility in the lower Vítkovice area. We were sent a request regarding the electrical installation and control system for the management and control of the stage and transport platform and the spread horizon.

Application description:

The main function of the stage and transport platform is to transport decorations between the stage and storage areas and also serves as a scenic element at stage level. It also serves as a service platform for the installation and operation of technologies under the upper supporting steel structure. The device is not used for the transport of people, but only for the transport of materials and decorations.

Products and technologies used:

The actual raised platform is designed as a single-storey truss structure, the upper part of which can form part of the stage floor and its floor is therefore made of a typical theatre plank floor. The steel structure of the platform is a combination of truss structures and simple rolled profiles. In stage mode, the speed of the platform is regulated by 2 frequency converters (the platform is driven by 4 motors of 11kW each, two of which are mechanically connected) located in the relevant switchboard cabinet. The exact position of the table is detected by 2 ARC sensors. The end positions are secured by emergency end sensors of the upper and lower positions. The overload of the table will be controlled by 4 strain gauge sensors.
As the name suggests, the stage and transport platform is operated in two different operating modes. In transport mode, the operator calls the platform to the station, opens the door, loads the load, closes the door and sends it to the destination station. The principle applies here that the entered commands are executed sequentially as they were entered to the control computer. The second scenic (stage) mode, on the other hand, corresponds to the operation of a theater platform.
Control is only from one place (control panel) from which it is possible to select the travel and speed to any of the positions. In scenic mode, the platform is controlled only from the control panel, which is portable. For control in transport mode, control panels are installed in each station. The control panel contains a key controller so that only a designated person can turn on and control the platform. The control panel contains control and signaling elements for calling the platform and sending it to the destination station.
The SIMOTION control system is used to control the platform. The drives are controlled by SINAMICS S120 converters. Both are produced by SIEMENS. The safety function is provided by the SIEMENS SAFETY automaton.

With the ELVAC a.s. solution, the customer gained the following benefits:

The use of modern control systems ensures precise and trouble-free operation of the equipment. The use of safety functions eliminates the risk associated with the operation of the platform.

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