



4. Automatic Control System of Converter Steel-making Production

(1) System Structure

Converter steelmaking is very important in iron and steel production, and it consists of a converter furnace, oxygen lance, gas supplier, slave lance test set, bottom air supply set, the blast gas dust-removal systems and ferroalloy feeding equipment.

There are three levels in the control system of converter steelmaking production. They are the management level, procedure and process level and fundamental control level.

As for the procedure and process level, the system consists of Servers, industrial Ethernet switches and IPCs, to perform the management functions, such as converter control, equipment maintenance, collecting data from the lab and doing statistics.

(2) Network Requirements

To ensure the reliability and safety of the control system, the communication network should be a redundant double ring network. The industrial Ethernet switches are required to be qualified for international protection over IP40, high temperature resistance and EMC.

(3) Product Application

Industrial Ethernet switches such as SICOM3000, SICOM3016, KIEN6000 and KIEN2000 are employed in the field network.

Industrial Ethernet switches such as SICOM3024 and SICOM6000 are employed in the upper level networks.

(4) Network Diagram

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