

Small solar power generation control system based on PLC





Overview

What is a S7 PLC?

Figure 44. Figure 45. The system's control unit was the S7 PLC, the switch module acted as a gateway for the PLC to PC and PLC to HMI connection via an ethernet cable. The motors had five wires, two of which were power wires connected to the power supply after passing through relay switches.

How does a PLC work?

The motors' feedback system went through the voltage regulators to lower the voltage from 0-24VDC to under 0-10VDC and links to the PLC's analog input connection. The CPU was fed 240VAC from either a power supply or an outlet, and it was converted to 24VDC. This supplied power to the switch module and the HMI screen.

How does a PLC control a motor?

Similarly, the other two relay switches controlled the flow of electricity from the power supply to the motors and are activated by the PLC. The motors' feedback system went through the voltage regulators to lower the voltage from 0-24VDC to under 0-10VDC and links to the PLC's analog input connection.

What is a programmable logic controller (PLC)?

Table 6. A programmable logic controller (PLC) is a specifically designed CPU that can control variety of automation applications. CPU and the programming tools allow users to design autonomous industrial processes and solve automation problems.



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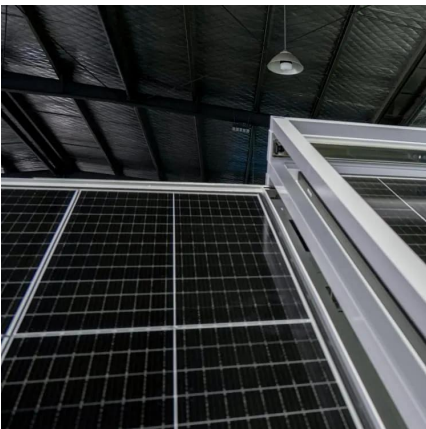


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inverter for the photovoltaic systems tracking system was used, 220V (AC) could be taken directly from the photovoltaic inverter power. Fig. 4: Power Supply Unit PLC control and monitoring ...

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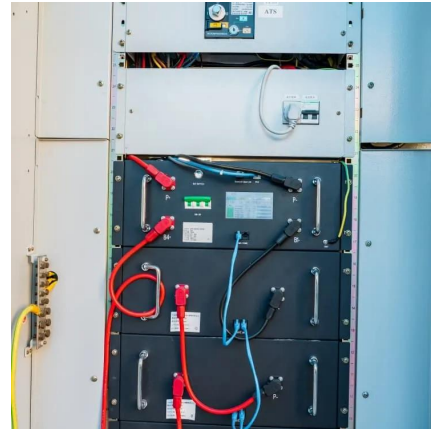


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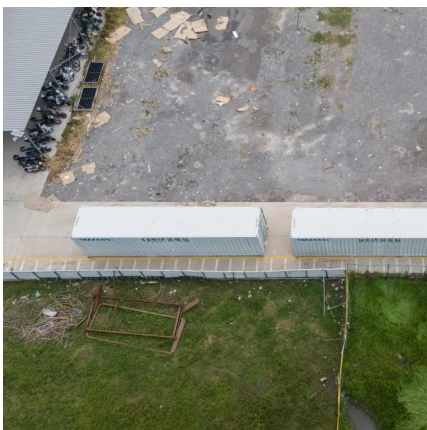
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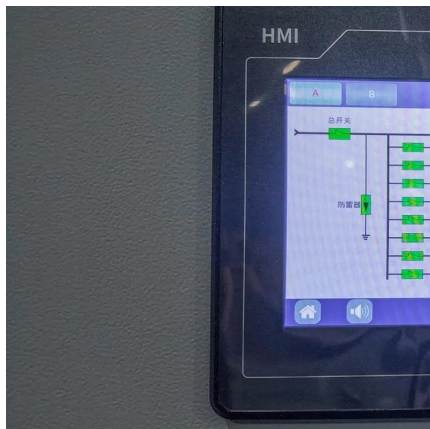
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