



C O M B O X  
T E C H N O L O G Y

# AUTOMATED CONTROL SYSTEM FOR COMBOX A-480/IC-960

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The ACS unit (Automated Control System) with PLC (Programmable Logic Controller) manages the system up to the specified work cyclogram. Each computing unit is connected through a switch, which enables connection and disconnection of computing units directly from an electrical supply network.

The unit is made with the use of a specialized Programmable Logic Controller (PLC) own designing. It uses the Ethernet network with the boards of card expansion. The controller collects data from all units and determines the accuracy of the 60 parameters at the same time that this occurs in reality. If the values deviate from the set values the PLC disconnect the faulty unit in less than 1 second. Thus, there is a prevention of equipment damage and possible fire. Similarly, the performance of ventilation, power supply and temperature are monitored.

Integration with the gas fire extinguishing system was implemented. If smoke is detected or the fire extinguishing system fails, the entire system stops immediately.

Because of the complexity of smoke detection during work of a high-performance ventilation system, PLC can independently make a decision concerning the occurrence of an emergency based on data from all units and elements of the system.

PLC has hardware safety against hanging or incorrect operation.

When any case occurs, data is written in the log of PLC. There is an immediate notification of the operator via messenger and SMS.

### Functions of ACS:

- The automatic operation of the system up to the specified algorithm
- The hardware protection from hanging PLC or incorrect operation
- The PLC operation at temperatures -40... + 60 C
- Prevention from possible fire
- Prevention the equipment from breaks
- Control of temperature and humidity inside
- Prevention equipment from starting during high humidity
- Stop of the launching at extremely low temperature
- Control of the pre-heater during low temperatures
- Control of fire extinguisher system
- Control of ventilation operation modes
- Monitoring of ventilation
- Control of mains voltages in three phases
- Control of power consumption in three phases
- Management of the security system and diagnostics monitoring and control system
- Control of door opening and movement
- Lighting control
- Start of the server, restart of the server during hanging
- Remote management of all systems, work without human

