



ACS

Automatic Control System

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ACS - review

1. The radiator is filled with water.
2. Solid-state relay (SSR).
3. Control module.
4. USB connection.
5. Power supply system.
6. Switch box.

The branch of technics this invention belongs to is automatics, control and computer-integrated technologies, software engineering.

The technic level is advanced.

At this moment there are a lot of developed control systems, but this system contains program software which helps to program devices by date/time, change them with sensors and from the website, make the repeating of actions by days of a week, change actions according to seasons and profile operation fulfillment. All these mentioned above changes can be programmed for priority-oriented performance of using changing of devices.

Automatic control system (ACS) helps to use devices more efficiently and make leisure time more interesting. This is the technology, which consists of three function settings-performance by date/time, changing by the user and characteristics of environment.

- I. With the help of date and time the user can programme devices for on/off. For this purpose the Desktop – programme ACS is developed, this programme switches on/off devices according to installed in its chart of fulfilment, information is saved in command file (ACS_Command.dat) information profiles is saved in file (profile.dat), information sensors is saved in file (sensors.dat), information settings is saved in file (settings.dat). Demands planning from the very beginning (day, month, year, hours, minutes, seconds, status)
- II. For making changes by the user there was developed a website, which changes the activity and characteristics of devices. This changing can be done by a, personal computer, a laptop, a tablet or a mobile telephone, which have internet connection.
- III. Changing of characteristics of environment, it means scanning from sensors (brightness, temperature, humidity, etc.) some characteristics and fulfilling some tasks according to the users desire.

ACS - modules

ACS modules are controlling devices, controlled dedvices, logocal devices, sensors.

ACS - scheme

The control system consists of the schemes:

- ✓ The control, for which appropriate firmware of the controller ATMEGA 2560 is created.
- ✓ Analitics, with the help of which the controller ATMEGA 2560 scans the characteristics of the sensors of analogous inputs.
- ✓ Galvanic isolation – for isolation of part of electric schemes.
- ✓ Power block (radiator) which are solid state relays (SSR).
- ✓ Power supply system.

ACS - power supply

Power supply of the system is from as well 220 V as 380 V.

- ✓ The whole system and 32 devices are supplied from 220 V.
- ✓ From 380 V the scheme is supplied by phases:
 - 1 line – supplies the whole system.
 - 2 line – supplies 16 start devices.
 - 3 line – supplies next 16 devices.

ACS – devices

The initial version of the control system consists of 32 controlled devices:

- ✓ illumination.
- ✓ sockets.
- ✓ curtain.
- ✓ ventilation.
- ✓ heating.
- ✓ Drying of air.

The main point of the invention

The tetechnical result of this invention is making human life simpler, it means automation and changing devices. In this system it is possible to settle allowable characteristics or intervals of characteristics, with the help of which device changing will go, this means that the system will look after a house, turn on light in the evening in the rooms and turn off by changing, e.g. in some intervals of time, justify temperature and humidity intervals, respond actively on security system (make a call for special number and insert log on PC), do air funnel if detecting some air structure e.g. harmful gases (methane, butane, reek of spirit, gas, hydrogen and usual smoke).

It is used for more comfortable and more effective device control.

The system can be expanded by some modern equipment.

ACS – documents



Patent