PIECZARKA - Controller for Mushroom Cultivation

The **PIECZARKA** controller is a device designed to control microclimate in chambers for mushroom cultivation:
it keeps the environment **humidity** on the set level (by controlling the air humidfication process) and **temperature** (by controlling the heating and cooling units). It also controls multi-point wisely **temperature of the substrate** (alarms) and logs the operation history (of the crop).
The possibility of connecting many humidity and temperature sensors with the measurement of the air and substrate temperature at the same time, and assures the precise adjustment and control of the microclimate, as well as generates alarms in case of any irregularity occurrences.

Two control options can be selected:
manual (the user is setting a humidity and temperature level, and the controller tries to keep it)
automatic (the user is programming the cultivation phases: overgrow extent, shock and stabilisation, and the controller automatically executes the introduced cycle).

The most important properties of the PIECZARKA Controller:

The control of the temperature and humidity (heating, cooling and spraying [humidfication].
Air temperature adjustment function on the basis of the substrate temperature.
The possibility of connecting up to eight air humidity and temperature sensors, additionally up to eight air temperature sensors.
Humidity measurement with precise, microprocessor psychrometric sensors.
Up to eight substrate temperature sensors.
Easy disassembling of sensors for the time of e.g. disinfection waterproof fast-connectors.
Sensors with data digital transmission; all sensors can be connected with a single lead of the total length up to 800 m.
Temperature readings with up to 0.1 0C accuracy.
Indications of humidity level with 0.1% resolution.
Indications of humidity change rate with 0.01% / h resolution.
Selection of operation mode: manual and automatic
Program for automatically introduced changes of temperature and humidity during the cultivation process (three cultivation phases: overgrow, shock, stabilisation).
Possibility of introducing manually corrections of the automatic program, at any stage of its duration.
Logging of the controller operation history memory capacity: more then 16,000 events (about 150 days of the recording of the temperature and humidity).
Interoperation with the PC (the PC software operates in the Windows 98-XP environment).
Semiconductor ~230V control outputs enabling indirect supply of electromagnetic valve coils or contactors.
Relay alarm output among other things signalling exceeding temperature and air humidity threshold values as well as the substrata temperature.