

APPLICATION NOTES

Poultry Farm Climate Control



Introduction:

Poultry farming primarily involves raising chickens—categorized as layers for eggs and broilers for meat—where bird health is heavily dependent on precise environmental conditions like temperature, humidity, airflow, and sunlight. Because temperature variations of even a single degree Celsius can cause severe respiratory distress or death, farmers are replacing traditional climate control methods with automatic controllers to maintain optimal temperature and humidity limits for peak productivity.

The Problem:

Considering the health of the birds in poultry farm, major factors affecting the same were:

- Temperature within the farm
- Air flow
- Humidity
- Cooling and ventilation

Maintaining optimum condition is a crucial and challenging task for the user.

Present Scenario:

Currently a customized product is used, which covers some aspects of the requirement. However, customer awaits efficient solution.

Our Solution:

Following are the conditions to be followed to achieve optimum results:

Table 1: Conditions to be followed		
Object	Active (ON)	De-activate (OFF)
Heater	Below 24° C	Above 24° C
Fan 1	25° C (ON-OFF Mode)	26° C (continuous mode)
Fan 2	26° C (Cont. ON)	Below 24° C
Fan 3	27° C	Below 24° C
Fan 4	28° C	Below 24° C
Fan 5	29° C	Below 24° C
Cooling Pad Exhaust	@ 28° C & 80% Humidity Cooling Pad must Turn ON	

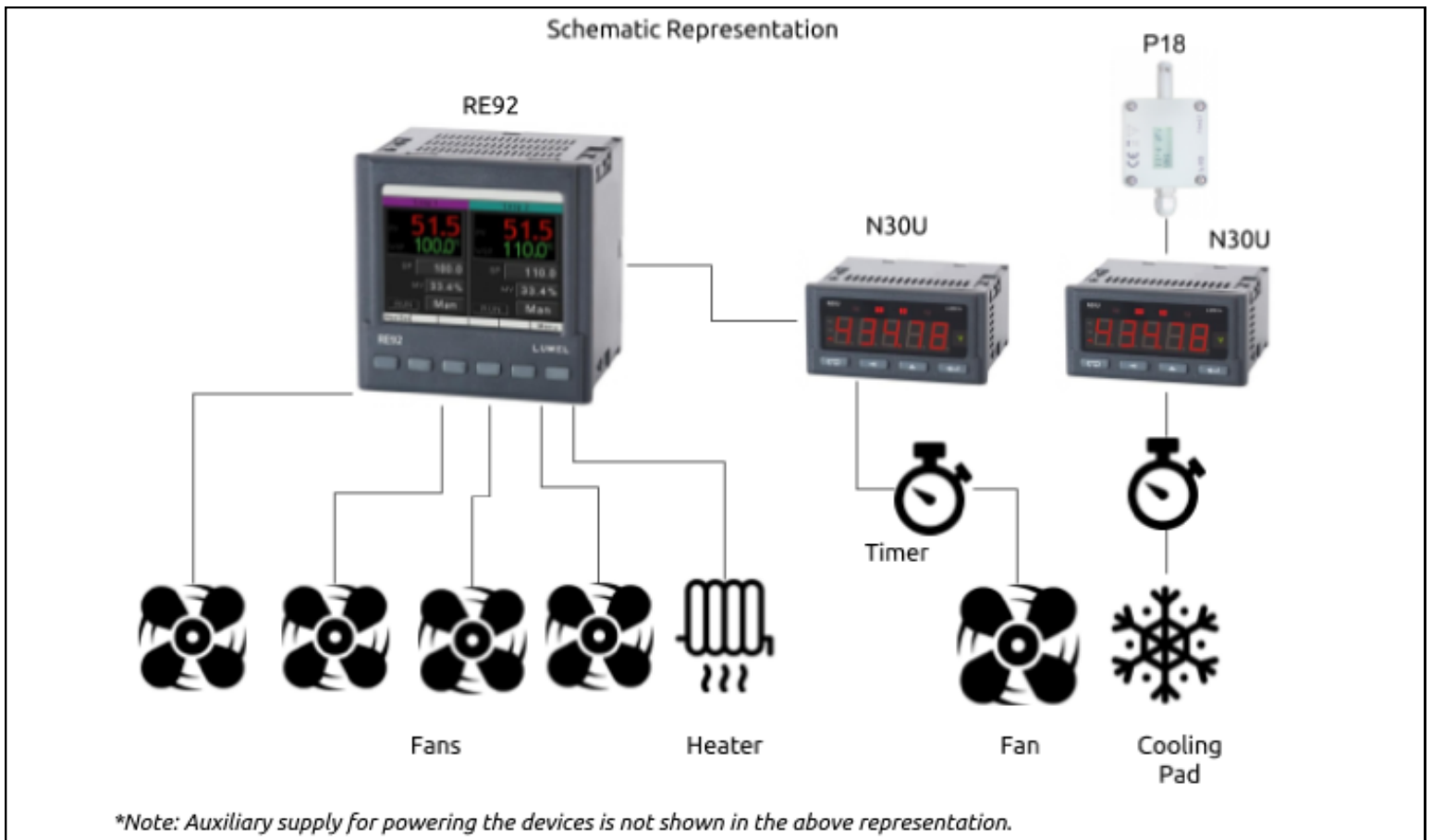
After studying the requirement, a solution was proposed, which ensured all aspects of consideration. The solution consisted of multiple products assembled in one package and deployed at the farm. A closed loop control system works effectively when all elements of the loop work in synchronization. The elements which complete this loop are temperature and humidity sensors and controller and actuating device. The devices offered for achieving the application executions are as follows,

- Temperature & Humidity transducer (P18)
- Advanced temperature controller (RE92)
- Humidity monitoring using Digital meter (N30U)
- Timer based fan control (N30U + Timer)
- Ventilating fans, cooling pad and heater

The Benefits:

Some of the key benefits achieved from the offered solutions are:

- One stop solution to all problems.
- Precise climate control is possible with the use of Advance Controller
- Enhanced efficiency of farm due to improvement in the conditions
- Significant savings on capital cost of investment
- IP65 enclosure ensuring reliable working in moist and dust prone conditions
- Devices equipped with communication interface



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