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MCC-10 POULTRY COMPUTER

Type MCC-10

OPTICON®
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* Very accurate control
* Optimum price/performance ratio
* General to use for new buildings and renovation as well
* Easy to operate
* Multiple control features (self selectable)
* Useable for all types of ventilation: natural, ridge, cross, tunnel or combi-ventilation

OPTICON MCC-10 FOR THE PERFECT CLIMATE IN YOUR BARN!

Opticon climate controls take care of a healthy and efficient growth of your poultry. The climate in your poultry house will be controlled in conjunction with the latest advanced technology according the EMC regulations of the European Community. Flexibility of the MCC-10 shows how easy the unit can be integrated with other OPTICON controls. If desired, more MCC-10's can be connected to a PC. The communication program OptiLink gives you easy access to all the data both via laptop on site or remote. Operating made simple by your design. The MCC-10 is provided with menu's including all the functions, which are necessary for each application.

Broiler breederhouse

MCC-10 climate controller

By using a special selection, you are able to display only the necessary menus and functions for your specific application. In this way, you can reduce the list of menu's and functions, as you prefer. Result: a "tailor-made" poultry computer with a large clear display with only relevant data.

Ventilation
The computer controls the air inlets in such a way that fresh air enters the poultry house with the right speed at the correct position. All based on actual measured temperatures, outside temperature, pressure and calculated ventilation. By using curves, several set points can be made which are the best for the birds at that specific age. By doing so feed and energy cost will reduced to a minimum.

Natural ventilation
To obtain the best results at natural ventilated houses, the air inlet flaps or curtains have to be controlled independently in zones. The MCC-10 has the possibility to control 6 flaps and 4 heating groups independently.
For example: 2 flaps per side and 2 flaps in the ridge, or 3 flaps per side.

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Turkey project with OPTICON equipment

Ridge chimney fan ventilation
All the air will be exhausted through the chimneys, which are installed on the roof. The MCC-10 can control variable speed fans, on/off fans or a combination of both. When variable speed single-phase fans are used, we need extra power extension boxes (PEB-20). In the case of three phase fans, we control the capacity by using frequency controls. Larger poultry houses can be split in several fan groups. Dampers in the chimneys control minimum ventilation and avoiding draught. The air inlets can be divided in more zones.

Cross ventilation
Air moves travelling from one side of the poultry house to the other. Air inlets can be divided in more zones. Fans can be controlled as on/off, variable speed or a combination of both.

The MCC-10 can simple control this creating the best environment.

Tunnel ventilation
Large fans will be installed in the end wall. Up to 20 fan groups can be controlled in steps. For minimum ventilation, some fans can be on/off controlled or with variable speed. Sometimes these fans for minimum ventilation will be installed in the ridge. This is known as combi ventilation.
To avoid large steps in ventilation volume, the MCC-10 has the possibility to control a variable speed fan between every step in such a way that there will be no large fluctuations and the ventilation increases gradually. The air inlets will be controlled independently in up to 4 zones. During warm weather periods, spray or pad cooling can be activated based on temperature and relative humidity.

Layer house with 'deep pit' Ventilation

Negative pressure control
All mechanical ventilated houses operate on pressure. The MCC-10 offers the possibility to control the pressure within a preset value over the total production cycle. The biggest advantage of this is that the flow pattern of the incoming air can be optimised for all seasons and all situations. In this way you avoid slow movement of cold incoming air, which drops immediately on the birds with all the negative results.

Heating
Several ways of heating are possible. Some heaters can be installed; these can be on/off controlled in groups or in zones. Extra supporting fans can be installed to distribute the heat all over the barn. Another way of controlling the heat supply is using proportional controlled heaters. In this situation the gas pressure will be controlled. The heaters can be nicely spread over the barn and controlled in zones. So there will be only heat were needed. Also used are hot water central heating systems. By using mixing valves the required heat will be supplied.

Cooling
Cooling can be done in different ways. A fogging installation can be activated based on temperature and/or relative humidity. The capacity of the cooling system will operate according an intelligent pulse width principle. In areas were the outside humidity is very low, pad cooling can be used. The MCC-10 has the ability to integrate with all these requirements.

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Sensors
A large range of sensors can be connected to the MCC-10. The house temperature can be measured on several locations. By using the configuration mode, you can determine which sensors have effect on which controls like fan groups, flap motors or heaters. Of course there is an outside temperature and R.H. sensor, which will anticipate on the outside fluctuations. Also false temperature alarms will eliminate by using an outside temperature sensor during warm weather conditions. In an efficient way, R.H. sensors inside and outside, keep the humidity level at the desired level. A pressure sensor can be installed to display the pressure in the house. Used in mechanical ventilated houses; the flow pattern of the incoming can be optimised. To analyse the air quality, CO2 and NH3 sensors can be connected. To registrate the feed-and water consumption, special water meters and feed weighers can be attached.

Light control
The MCC-10 is provided with free programmable timers, which are able to control several individual light groups. These light groups can be simple on/off. But also dimmable groups are possible to simulate dawn to dusk situations.

Feed and water
Feed cost is by far the biggest expense on a poultry farm. Therefore it is important to registrate the consumption. And at the same time to supply the right amount at the right place. Using several programmable timers allow you to activate the feed lines. Water is important and a schedule can be programmed as well. Of course the water consumption will be recorded.

Parentstock with OPTICON climate control

Central operation by PC
Naturally the MCC-10 can be connected to a PC, even in a network. All kind of other Opticon products, like DWS-20 bird weigher and PMC-20 feed weigher, can be connected in the same network. From your remote PC all settings and data can be changed and recorded. At the same time graphs can be produced to visualise the course of the date. Data will be stored automatically at preset intervals. The data can be imported in spreadsheets (e.g. Excel) for further analysing. At larger physical distances between control units and PC, and when no cables are allowed, then a radio modem is a solution. The maximum distance is appr. 800 metres. When this is not adequate, a GSM modem can be installed.

Supplementary products
A range of supplementary products is available to complete the installation. Such as end stations to control actuators for air inlets or servomotors, end stations to control fans and complete panel boxes.

Growth curves
The MCC-10 can fully pre-programmed to create the optimal situation for your animals at each age. Several curves are available to this.

Alarming
To avoid critical situations, alarm limits can be set. When exceeding these limits for a preset period of time, the system will generate a clear alarm message. To avoiding false alarms, the system will reckon with the outside temperature.

Registration
What happens if you don't realize what's happening? The MCC-10 is provided with a large range of possibilities to visualise the measures values. On the basis of these data, several actions can be started to optimise the process in your poultry house.

Time control
Various timer functions are available to control e.g. light, nests boxes, feed lines or water valves, etc.

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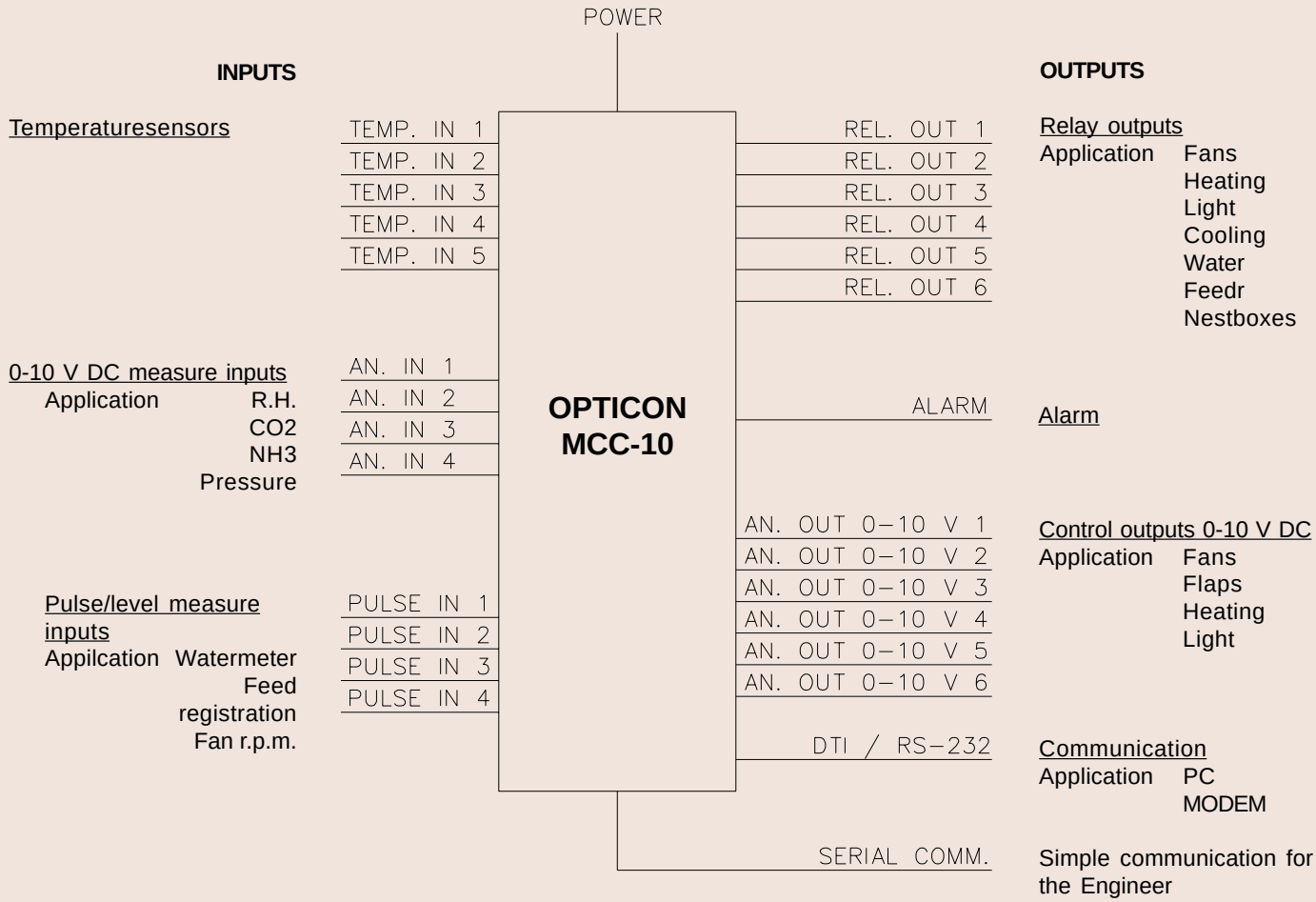

MCC-10 inputs / outputs

More houses controlled by one MCC-10
The universal set-up of the MCC-10 allows the possibility to divide the in-and outputs over more houses. All settings and registrations are taking place completely separate.

Technical specifications

Power consumption	:	100 VA
Power supply	:	230 Vac ± 10% 50/60Hz
Dimensions	:	220 x 270 x 110 mm (h x b x d)
Weight	:	2,4 kg
Protection	:	IP54

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