Easy touch system makes the program user friendly

Wide display screen (120x90 mm) with 320x240 dots resolution and backlighting.
The main **Gt Farm** feature is that you can fully set and customize the house working configuration. This is easily done connecting the **Gt Farm** to a PC thru the **GtFarm Lab** software. The **Gt Farm** can manage up to 86 inputs and 86 outputs. **GtFarm Lab** programming software has a step-by-step procedure with graphics and notes which enables you to define and configure the working parameters of the house. Once the configuration has been completed, **Gt Farm Lab** will print out the list of the components along with their wiring diagram. Each complete house configuration is saved to a “program file” which is stored in the PC and transferred to **Gt Farm**. Program files can be recalled from **Gt Farm** and edited at any time. The program settings (temperature, relative humidity, meal start timing, feeding curves, etc.) and all the settings which are related to the house functioning are directly set by the **Gt Farm**. The **Gt Farm** programming is assisted by HELP screenshots; while programming only the variables previously set by PC are shown (i.e. If Heating 1 is the only option selected, the further heating options will not be shown. Same rule applies to flaps, cooling, ventilation, etc.).

**Summing up:**
- The house configuration (number and type of heaters, flaps, ventilators, feeding system specifications, etc.) is set by PC and uploaded to **Gt Farm** via the **GtFarm Lab** software.
- The program settings related to the functioning of the system (temperature set, Relative humidity set, meal start timing, feeding curves, etc.) is done directly on the **Gt Farm**.

**Direct connection to P.C.**
Communication with external world is by USB and by LAN Ethernet network. The main programming parameters, the archive downloads and software updates can be made by PC connection via the USB port.
**Ventilation**

Up to 16 x independent and fully configurable ventilation steps according to following typical options:

- On / Off.
- Fan speed control by transformer.
- Proportional by 0 -10 V for triac / inverter speed control.
- Or a combinations of the three systems above.

*The calculation of the minimum ventilation can be handled in two separate ways:*

**Normal Ventilation**

Below a required minimum value ventilation is handled by timer to ensure minimum ventilation rate. If indoor temperature becomes higher, ventilation is increased accordingly. In case of On-Off ventilation on step 0, air changes can be activated. They are automatically calculated by timer and optimized to give minimum heating consumption and optimal air exchange.

Working fans position can also be cyclically rotated during the air changes (during normal working conditions the last fan can be cyclically rotated).

**M³/h/Kg Ventilation**

Below a required minimum value ventilation is handled according to M³/h/kg so according to number of birds, weight of birds and the M³/hour per Kg live weight parameter.

While working by this mode, number of birds must be kept strictly updated and at cycle start up all relevant parameters must be inputed.

When fans are working in on-off mode, the system operates them by timer by cyclically shifting thru the fans of each step.

In case fans are working by 0-10V regulation, the system works in “saw tooth” mode by increasing the fan speed gradually to reach 100% and then switching to the next fan (keeping previous fan at full speed).

This sytem particularly fits small diameter ventilation systems as fan one fan only is working by speed regulation. Fans can also be operated cyclically.
GT Farm can manage environmental control

**Air Flaps**
Up to 16 x independent air flaps according to following typical options:

**Dynamic ventilation systems**
- Pressure drop (thru the DP59/W pressure drop control module).
- Pressure drop + potentiometer to align air inlets to same degree of opening (thru the pressure drop control module + potentiometer).
- Proportional according to ventilation steps (while increasing ventilation, air inlet open proportionally) with potentiometer.

**Natural ventilation systems**
- Floating or Derivative (no potentiometer).
- Proportional (by potentiometer or by 0 -10V).
- Aligned (with flaps feedback potentiometer): it allows to align this flap to another flap controlled by potentiometer.

**Emergency:**
- Flap is closed in normal working conditions. It opens up only as emergency unit.

**Cooling**
Controls of 2 cooling systems by temperature and % RH.

**Humidification**
Humidification according to temperature and % RH.
Heating

- 8 ON-OFF or 0-10V heaters (also a combination of them up to 8 heaters).
- 1 Modulant output radiant heater or 1 x two stages automatic ignition radiant heater.

Heat index

_Gt Farm_ can also work according to the heat index, which is related to the temperature “felt” by the birds (according to the Temperature - Relative Humidity correlation).

Average temperature value

Up to 4 probes can be connect to measure the indoor ventilation indoor temperature. These probes, alongwith the heating and the flaps probes can be connected to create an “average” temperature value as a mix of the temperatures as recorded by the above probes.

Calendar

Heating and ventilation options can be set to run automatically according to the day of the batch.

Password

Up to 2 password levels can be set by the system administrator so to prevent misuse of unit.
GT Farm can manage environmental control

**Alarms**
Temperature, humidity, air-pressure, minimum amper absorption, recording all the alarm events (including alarm exclusions).

**HP29/W independent alarm**
Independent ventilation alarm unit which is a supplementary source of the following alarm:

- Minimum and maximum temperature.
- Minimum and maximum air-pressure.
- Check of **GT Farm** correct functions by a signal sent every 3 min (watchdog).
A daily quantity of feed (limited or unlimited) is distributed, according to the feeding curve at preset times of day. Feed management can be done either by the silos load cells or by volumetric system (when silos have no load cells) by converting the auger working time into Kg, or by an external weighing system (i.e. a mechanical weigher).

**Feed distribution can be done in 2 ways:**

- **Unlimited.** NO limit of weight and time. **Gt Farm** manages the feed distribution, records all relevant feeding data and the birds weighings.

- **Limited.** Distribution is done at preset times according to preset parameters (gr./ birds x nr. of birds). This operation is performed until the programmed daily food weight has been reached.

The program records the number of birds so that the daily meal curve is set in gr/birds (the curve can be temporarily changed without losing original data and settings of original curve).

The program also manages the water distribution controlling the water-meter. In the archives (managed on a daily basis) are recorded all the data related to the day meal, bird weight, silos upload/download and birds performances.
**Animals accounting**

Daily recording of inputed, taken away, dead birds.

**Birds weighing**

Bird weighing is performed by the 2 weighing plates (1 plate available as option).

**Feed**

Feed management can be done either by the silos load cells or by volumetric system (when silos have no load cells) by converting the auger working time into Kg.

Silo conveyor command, feeding line, mangers lift up and down, light, water.

**Water management**

Water distribution is programmable at preset times and consumption is recorded by the water meter. Water level is kept under constant control to prevent problems.

**Light**

Light on/off control and % light control with increase and decrease lighting. Lighting hours can also be programmed.
GT farm stores in archives all the data of the cycle

CLIMATE ARCHIVE
Day 1 29-06-09

Indoor
- Minimum temperature: 23.0°C
- Average temperature: 24.0°C
- Maximum temperature: 26.7°C
- Minimum humidity: 36%
- Average humidity: 61%
- Maximum humidity: 67%

Outdoor
- Minimum temperature: 13.2°C
- Average temperature: 14.0°C
- Maximum temperature: 16.7°C
- Minimum humidity: 46%
- Average humidity: 31%
- Maximum humidity: 57%
- Maximum speed left side wind: 12k
- Maximum speed right side wind: 16K

HEATING ARCHIVE
Day 1 29-06-09

- Heating 1: 130°
- Heating 2: 98°
- Heating 3: 123°
- Heating 4: 90°
- Heating 5: 112°
- Heating 6: 0°
- Heating 7: 0°
- Heating 8: 0°
- Total time Heating 1-8: 333°
- Radiant minimum working time: 46°
- Radiant maximum working time: 31°

FEEDING ARCHIVE
Day 1 29-06-09

- Day of cycle: 2
- Programmed meal: At will
- Distributed meal: 612 K
- Distributed water: 1224 L
- Number of females: 12,124
- Number of males: 10,167
- Male Gra-curve: 9,999 g
- Supplementary meal: 0 K
- Meal variation: 100%
- Fixed meal: 8 K
- Manual feed supply: 0 K
- Programmed time: 143°
- Distribution time: 143°
- Conversion: 1.76
- Gar/bird feed: 65 g
- Gar/bird water: 127 g
- Silo 1 download: 6 K
- Silo 2 download: 0 K

BIRDS WEIGHING
Day 1 29-06-09

- PLATE 1
  - Average: 42 g
- PLATE 2
  - Average: 52 g
- Average today: 47 g
- Target weight: 50 g
- Target deviation: 2 g
- % Target deviation: 5.0%
- Daily increase: 8 g
- Weighings number: 1245
- Uniformity: 93%

ANIMAL FILING ARCHIVE
Day 1 29-06-09

- Females: 10,124
- Males: 10,167
- Present: 10,124
- Taken: 0
- Introduced: 0
- Dead: 0

SILO UPLOAD ARCHIVE

- Silo 1 upload: 11012 K 24-06-09 17:33
- Silo 2 upload: 93223 K 21-05-09 19:11
- Silo 1 upload: 12343 K 14-05-09 07:35
- Silo 2 upload: 11987 K 13-05-09 06:55
- Total manual immision: 0 g

FEEDINGS TOTALS

- Conversion: 1.86
- Feed total: 6 g
- Water total: 124 K
- Feed / Feed: 2.01
- Feed Gra / bird: 70 g
- Water Gra / bird: 141 K
- Average weighing 1: 42 g
- Average weighing 2: 52 g
The Settings which characterize the system (number and type of heating, number and type of flaps, ventilation’s type, specifications of the feeding system, etc.) will be setted from PC and uploaded on GtFarm module by the GtFarm Lab software.
Some typical screenshots of cycle analysis are available on network program.
**Genius Top range**

The main feature of the **Genius Top** range is the wide backlit display screen (120x90 mm) with 320x240 dots resolution. The user interface is easy and friendly. The **easy touch** screen systems gives both the typical “easy to use” approach of a touch screen system and the strength and mechanical protection of a polycarbonate IP55 keyboard. At every screens the function keys display a different graphic making the program very user friendly. Each programming step has its own help screen so the program has a “built in” instruction manual.

The **Genius Top** IP55 protection standards (protection against dust and water jets) make it ideal for damp and dusty environments.