

LUMINA 37

LUMINA 37 TOUCH

F37



PRODUCT APPLICATION MANUAL

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The Lumina 37 controls the climate in mechanically ventilated poultry houses.

The Lumina 37 can be applied worldwide in:

- Breeder houses
- Rearing houses
- Layer houses
- Broiler houses
- Turkey houses

The Lumina 37 ensures optimal conditions in your house under all circumstances. It distinguishes itself by a number of unique control options for extra user advantages with a well-organised and simple control.

The Lumina 37 controls the following concepts:

- Fancom Combi
- Fancom EC-Combi
- Fancom MTT
- Tunnel ventilation

Features

- User-friendly user interface, graphical display (192 x 128 pixels), with variable menu.
- Access with optional password protection up to 3 different levels (moderate user, advanced user and installer), the so-called "Multi Level Data Protection".
- Complete implementation of the Fancom (EC-)Combi concept and the Fancom MTT concept (Minimum Transitional Tunnel).
- Very extensive combi table with 30 setpoints, 10 combi relays, 1 controllable part, 1 inlet control (or winter inlet), 1 tunnel control or summer inlet) and underpressure.

Sensors

- Room temperature measurement using maximum 4 room sensors and temperature setting per 0.1°C.
- 1 RH measurement using 1 electronic RH sensor, setting per %.
- 1 Pressure measurement using underpressure sensor, setting per Pa.
- Weather station connection (outside temperature, outside RH, wind direction and wind speed).

Ventilation

- Ventilation is calculated based on animal weight.
- Maximum 2 ventilation zones.
- Ventilation control based on house temperature, with low and high temperature and relative humidity influence.
- Night correction on setpoint house and/or ventilation percentage, connected to a light clock.
- HumiTemp® control.

Exhaust

- Maximum 10 relays controlled, optionally combined with a linear fan control (Combi or ECombi).
- Linear Fan control enables to control controllable fans (via triac, frequency controller, EC-fans, ITM) or modulating ON/OFF fans. Rotation (changing between fans) can be used with modulating fans.
- Up to maximum 4 ITM's can be controlled using the I/O network.
- Separate vortex damper control, linked to linear exhaust using a settable factor.

Inlet control

- Inlet controls (2 zones) to control inlets or valves using the same setting. The valves can mutually be corrected based on temperature difference.
- 1 Tunnel inlet. Separate inlet control to control a tunnel shutter or curtain.

Curve

- The following settings can be programmed in a curve (maximum 20 setpoints):
 - Day number
 - House temperature
 - Extra temperature (e.g. for heating)
 - Desired RH
 - Animal weight
 - Minimum ventilation (in m³/kg/h)
 - Maximum ventilation (in % or a tunnel position)

Heating / cooling / humidification

- 3 Heating controls, ON/OFF, time modulating, analog, based on their own sensor and linked to:
 - the house temperature or
 - an extra temperature
- 2 Cooling control, ON/OFF or time modulating, based on their own sensor and linked to:
 - the house temperature or
 - the house temperature + bandwidth or
 - an extra temperature or
 - the first tunnel position
- 1 Humidification control, ON/OFF or time modulating based on relative humidity in the house.
- Heat demand through F-Net; in combination with a central heating control (e.g. F21).
- OptiSec® control.

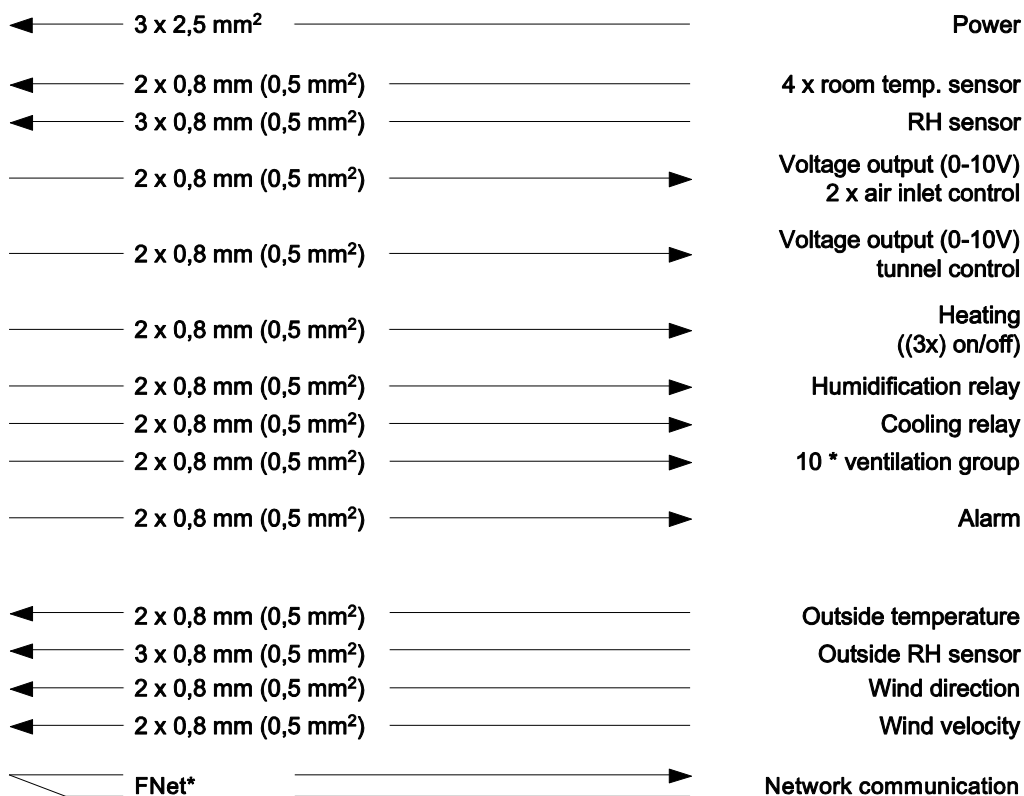
Time clocks and registration

- 1 Feed clock enabling to enter maximum 24 start and stop times for feeding. Feed consumption is registered for a settable time interval (Management & Monitoring ®), of today, yesterday, day before yesterday and total. A pulsed weighing system or external weighing systems generating pulses (e.g. directly on an auger) can be used for registration. Feed flow (under- and overflow) alarm and maximum runtime alarm.
- 1 Water clock enabling to enter maximum 24 start and stop times for water dosage. Water consumption is registered for a settable time interval (Management & Monitoring ®), of today, yesterday, day before yesterday and total. A water meter can be used for the water registration. Water flow (leakage, under- and overflow) alarm.
- 8 Light clocks enabling to enter maximum 24 start and stop times. Setting possibilities: increase/decrease times (dimmer functions), settable light intensity (with light meter) and connection to light curve.
- 4 Time clocks enabling to enter maximum 24 start and stop times. This time clock has several applications, but no registration functions.
- 32 Registration groups for feed, water or other purposes.

Alarm

- 8 External alarms (free programmable) and application alarms via 1 alarm relay.
- Temperature differential signalling for giving a signal to an external automatic fire alarm system (AFAS).

Wiring



* Greenlink: 2 x 0,8 mm² twisted pair

** Maximum 30 FNet modules in 1 network

Technical specifications

FDP25		
Mains voltage	90Vac – 264Vac	
Main frequency	50/60Hz	
Maximum power consumption	25VA	
IOB.4		
Power available for sensors and peripheral equipment		
24Vdc (short circuit resistant)	max. 500mA	
12Vdc, short circuit resistant	max. 70mA	
4x analog outputs (AO)		
Voltage range	0-10Vdc	
Maximum load	1mA	
Output resistance	570Ω	
4x analog inputs (AI)		
Types selectable via Jumper		resistance or voltage
Resistance:	Temperature range sensor type S.7	-50°C to +110°C
	- accuracy (-25°C to +100°C)	<0.5°C
	- accuracy (0°C to +60°C)	<0.2°C
	Measuring range for position feedback	0-20kΩ
Voltage:	Measuring range (input resistance 100kΩ)	0-10Vdc
	Accuracy	+/- 15mVdc
4x Digital inputs (DI)		
Open contact voltage	12Vdc	
Low level	<1.0Vdc	
Application: Counter input, min. pulse width 25mSec	max. frequency 20Hz	
Application: Frequency input	max. frequency 5kHz	
5 Digital outputs (Relays)		
Relays 1, 2, 3 (make & break contact) and 4: voltage free	max. 2A 60Vdc/30Vac	
Relay 5 (alarm relay): voltage free	max. 2A 60Vdc/30Vac	
Extra digital outputs (DO)		
Connection for optional relay (FRM.8 print).		
Communication		
I/O-Net for extra inputs and outputs using I/O-modules.		
FNet, Fancom network for intercommunication of control computers and PC connection.		
FRM.8		
8 Digital outputs (relays)		
Relay 1, 3, 5, 7: make-and-break contact	Max. 2A 60Vdc/30Vac	
Relay 2, 4, 6, 8: voltage free	Max. 2A 60Vdc/30Vac	

Other

Housing	
Plastic housing with screw-on lid	IP54
Dimensions (l×w×h)	300×240×140mm
Weight (unpacked)	2.6kg
Ambient climate	
Operating temperature range	0°C to +40°C
Storage temperature range	-10°C to 50°C
Relative humidity	< 95%, uncondensed