

# Funki

## *Automatic Spray System*

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## *User's manual*

0950-108\_GB

## Automatic Spray System ACO Funki A/S

**Funki Automatic Spray System** is an IP54 enclosed control unit for use in connection with the spraying of pigs or other animals for climate control.

The simple operating panel with clear keys for each function makes it easy to use. The real-time clock with battery enables the start and stop time at which spraying is required to be set at any time of the day.

The control unit regulates a solenoid valve based on either a 0-10V signal or the measured temperature. Pulse duration, pause intervals and active time period can be set separately in Automatic MODE. The activated solenoid valve duration is fixed (ON TIME), while the pause interval is varied between OFF low OFF high.

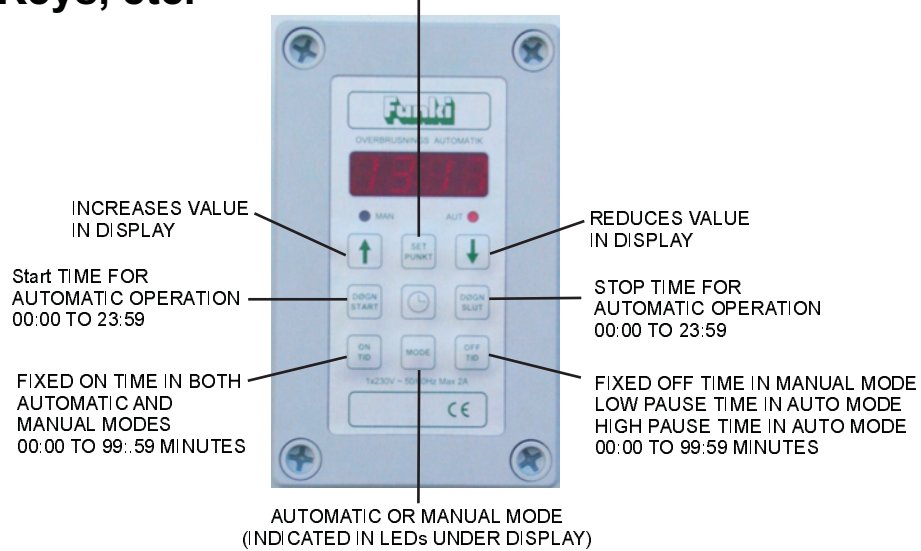
In manual MODE (soaking) the control unit operates according to fixed ON and OFF time. The time for soaking is simply set on the arrows in hours and minutes, and the countdown begins until it reaches 0, after which the unit is switched off. Toggle between AUTO and MAN by holding down MODE for 2 seconds.

The set point can be set in either °C or Volt, depending on the function which has been selected on the SELECTOR SWITCH on the printed circuit board. The set point is the voltage/temperature at which the pause pulse begins to vary from its minimum to maximum value.

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## Keys, etc.

SET POINT IN °C : 0.0 TO 50.0°  
 SET POINT VOLT: 0.2 bis 9.0 u



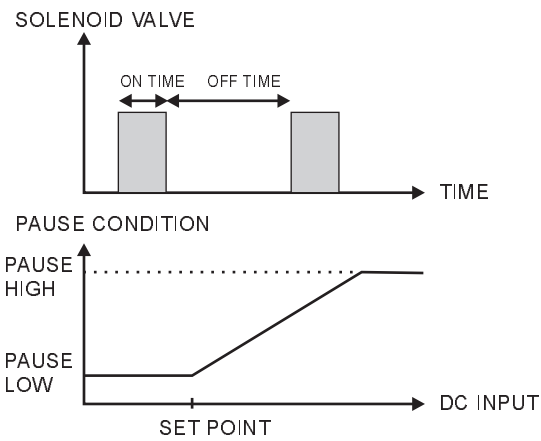
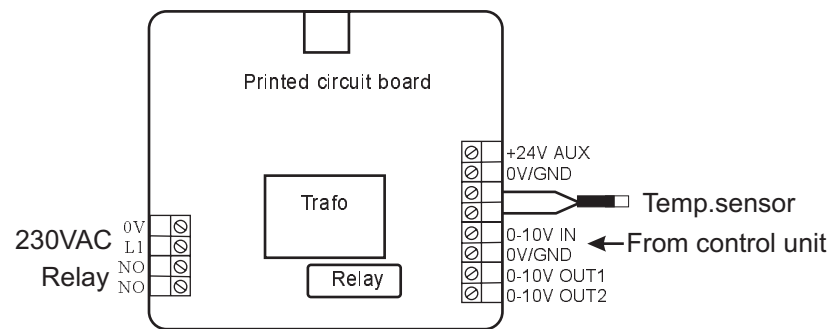
## Automatic Spray System ACO Funki A/S

### **Technical Data:**

- 230 +/- 15 VAC / 50 Hz power supply
- Optional 24 VAC / 50 Hz power supply
- 1 Relay output 2A / 230 VAC  
(when connecting to solenoid valve, an RC filter must be used)
- 1 Analogue input 0-10V / 200 kOhm, OR  
Temperature input 50 - +50 °C / 0.1 °C
- 1 Analogue output 0-10V / 10mA
- Auxiliary DC supply out 24VDC / 20mA +/- 30%
- Real-time clock with Lit. Bat. Backup
- Ambient temperature 5 - 45 °C
- Air humidity 5-95% RH, non-condensed
- Operation from front panel
- LED indication of MODE
- IP54 rated
- 2 x PG13 and 1 x PG9 fittings
- Connection through "snap" terminals for rapid installation
- EMC 89/336/EEC LVD 73/23/EEC
- (En 50081-1, EN50082-2)
- CE approved









# Automatic Spray System ACO Funki A/S

## Circuit / Function diagram









## **Automatic Spray System ACO Funki A/S**







### **Programming *Manual Mode*. Soaking**

KEY	DESCRIPTION	DISPLAY
	Sets the <b>TOTAL</b> soaking period	Shows <b>REMAINING</b> Hours and minutes for soaking
	0 : 00 to 99 : 59 hours/minutes	Flashes -- -- when period has expired Switches off when period has expired
	Time in minutes and seconds for <b>ACTIVATED</b> relay to solenoid valve  0 : 00 to 99 : 59 minutes/seconds	Shows minutes and seconds for manual ON period Set by pressing the relevant arrow key at the same time !
	Time in minutes and seconds for <b>DEACTIVATED</b> relay to solenoid valve  0 : 00 to 99 : 59 minutes/seconds	Shows minutes and seconds for manual OFF period Set by pressing the relevant arrow key at the same time !
	No function in Manual soaking mode	
	No function in Manual soaking mode	
	No function in Manual soaking mode	
	No function in Manual soaking mode	

## Automatic Spray System ACO Funki A/S Programming *Auto Mode. Spraying*

KEY	DESCRIPTION	DISPLAY
 	<p>The different items below can be set by holding down the individual keys at THE SAME TIME as the arrows are pressed or held down</p>	
	<p>Time in minutes and seconds for <b>ACTIVATED</b> relay to solenoid valve The control unit can operate in 2 different modes, so this ON time is defined for respectively :</p> <p>Temperature control: temp &lt; set point DC control :dc_in &lt; set point</p> <p>0 : 00 to 99 : 59 minutes/seconds</p>	Shows time in minutes and seconds for ON period (relay activated)
	<p>Time in minutes and seconds for <b>DEACTIVATED</b> relay to solenoid valve <b>LO</b> pause time ! The pause time is varied from LO pause to HI pause as the input voltage is increased from the set point to the end value !!</p> <p>0 : 00 to 99 : 59 Minutes/seconds</p>	<p>Flashes PAUS - LO</p> <p>If the arrow keys are pressed the <b>lowest</b> PAUSE TIME in minutes and seconds is shown (relay deactivated)</p>
 	<p>Time in minutes and seconds for <b>DEACTIVATED</b> relay to solenoid valve <b>HI</b> pause time ! The pause time is varied from LO pause to HI pause as the input voltage is increased from the set point to the end value !!</p> <p>0 : 00 to 99 : 59 minutes/seconds</p>	<p>Flashes PAUS HI</p> <p>If the arrow keys are pressed the <b>highest</b> PAUSE TIME in minutes and seconds is shown (relay deactivated)</p>

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KEY	DESCRIPTION	DISPLAY
 	Return from setting of PAUSE times	Shows current time
	Start time for automatic spraying. Spraying will ONLY take place when the current time is within the START/STOP period	Shows start time in hours and minutes
	Stop time for automatic spraying. Spraying will ONLY take place when the current time is within the START/STOP period	Shows stop time in hours and minutes
	Built-in CLOCK	Shows current time. Can be adjusted by pressing the relevant arrow key at the same time
	<p>Set point at which the automatic control unit will begin to alter the solenoid valve's pause interval. The pause interval is changed from set LO to set HI as above. The pulse interval is <b>fixed</b> as above</p> <p>In the case of temperature, pause is modified over 5 °C from the set point. In the case of 0-10V control, pause is modified from set point to 10V in !</p>	<p>In the case of temperature, The set point is shown in °C. Can be set from 0 to 45 °C.</p> <p>In the case of 0-10V control, the set point is shown in Volt. Can be set from 0.2 to 9.0V</p>