

DITRONIC



En

USER MANUAL

for 1.28 or higher

INSTRUCTIONS FOR MOUNTING

■ Pages: 23-41



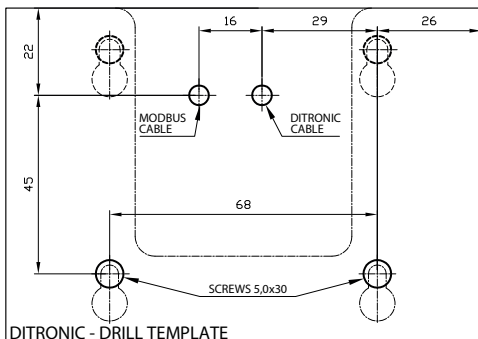
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UNPACKING - INSTALLATION

The Ditronic controller is available as a set with a room sensor, quick start guide, user manual, and installation accessories (dowels, screws), and a drill template. First, please check correct cable type *(recommended cable type is UTP – 8 wires; e.g. ROLINE U125H424- A, and more), then attach the drill template to mark the drilling holes. Make sure the cable is located correctly as shown on the template. Then, drill \varnothing 6mm holes for the dowels, fit the dowels and screws according to the drill template (Fig. 1). Screw the screws almost completely to the wall with about 1.5mm clearance to fix the controller anchoring plate (Fig. 2a).

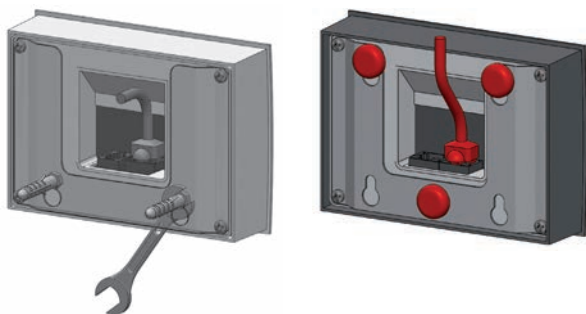
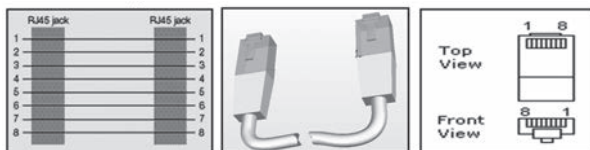


DRILL TEMPLATE (INCLUDED) FIG. 1

Now, shorten the 8-wire cable to about 10cm from the wall, and crimp the cable connector. Please pay attention to proper arrangement of the wires, see Fig. 3 (identical on both cable ends). Slide the connector to the socket inside the controller before fitting the controller on the wall. Make sure the cable does not cross the outline of the anchoring plate. Slide the controller with the anchoring plate on the screws and push down to finish the installation. As a security feature you can tighten the screws now (Fig. 2a). For surface cable routing, an offset rubber feet are required to be attached to the mounting bracket (Fig. 2b)

CONTROLLER WALL MOUNTING














(included) Fig. 2a and Fig. 2b

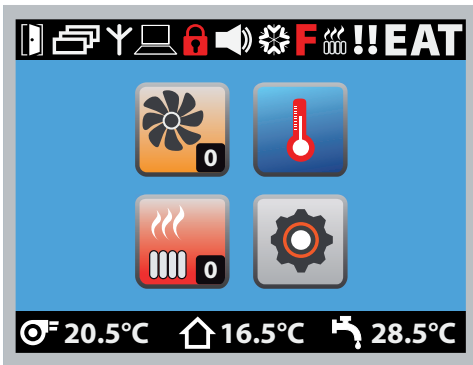
**CONNECTION OF 8-PIN CONNECTOR (included) Fig. 3**

CONTROLLER AND SYSTEM DESCRIPTION

The Ditrronic controller is a twin-processor controller intended for controlling of door air curtains. The controller is designed for wall mounting only in basic dry environment.

DESCRIPTION OF THE SYMBOLS ON THE CONTROLLER

	Door contact permitted – position of the door		Filter service
	Master-Slave		Heat up mode active
	Remote control *		Compound failure
	BMS active		Permitted external contact / permitted remote control
	Keyboard lock active		Automatic mode
	Sound on		External thermostat
	Anti-frost protection active		



	20.5°C	Outlet air temperature
	16.5°C	Room temperature
	28.5°C	Medium median temperature
	12.5°C	Outdoor temperature

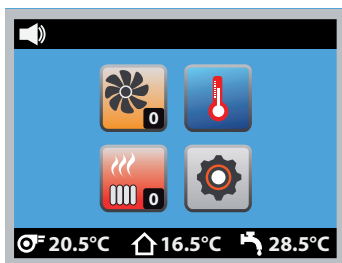
Technical conditions for operation of the controller:

max. surrounding temperature 35°C / IP 20

controller operation voltage 12V DC

operating voltage of the unit 230V (400V)-50Hz (unless requested otherwise)

* "Remote control / radio contact" function available only for original controllers.



FAN

Fan output is selected with „+“ and „-“ buttons; the output selected is then indicated with “X” symbol, and the output will be stored automatically in memory after 1 second.

FAN - EC

Select the fan speed with „+“ or „-“ buttons. Press the button shortly for the controller to either increase or decrease the fan speed by 10% (quick speed selection), and press the button longer for the controller to increase or decrease the fan speed continuously depending on whether „+“ or „-“ button is pressed (slow speed selection). In this menu the instant fan speed is displayed graphically and numerically in per cent. After return to main menu the configured fan speed is displayed in 0-100% range by the fan icon. In heat pump mode, the fan operation depends on the ECO1 / ECO2 / COMFORT mode.

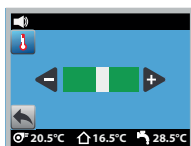


REQUIRED TEMP SETTING

Here, you can set the required temperature from the selected sensor type

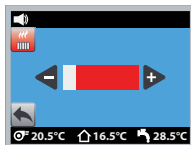


(room or outlet sensor type). Use „+“ or „-“ buttons to adjust the temperature. Preset temperature without correction will be loaded after the controller restart.



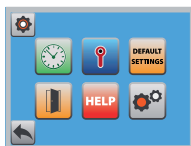
HEATING

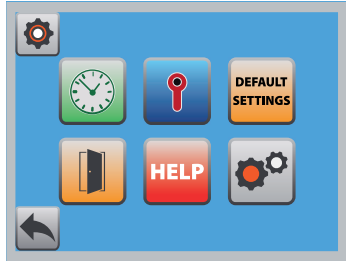
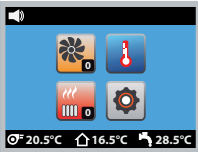
Heating level (water version – electro-thermic valve control (if installed); electric version – electric heater control) is selected with „+“ or „-“ buttons, and the level selected is then indicated with “X” symbol; the level will be stored automatically in memory after 1 second. Heating is initiated only if needed based on real temperatures.



SETTING

You can set other parameters here.





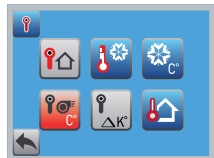
WEEKLY SWITCHING CLOCK

The controller offers the time mode control selected by the user. For real time and switching times setting, see below (chapters). If you wish to operate the controller with time mode control, select "ON".



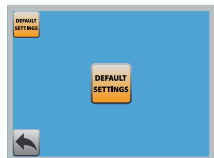
TEMP PARAMETERS SETTING

You can set parameters of type of the control sensor, winter/summer operation type, antifrost protection, minimum outlet air temperature and correction, activation of the outdoor sensor.



DEFAULT SETTING OF THE PARAMETERS

Load factory settings (first setting).



DOOR CONTACT PARAMETERS

Here you can enable door contact function, select switching on/off contact including setting of the fan rundown after switching on.



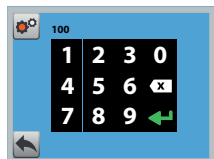
HELP TRONIC

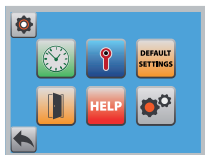
QR code display. Use a reader to get to the user manual to troubleshoot the Ditronic Touch. For more information go to: <https://help.stavoklima-sw.eu>



SETTINGS

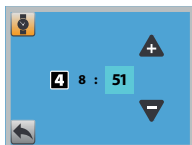
You can set other parameters here.





TIME - CLOCK SETTING

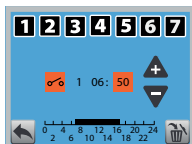
You can set (change) real time here – CLOCK. The line is active only if time control is enabled.



4 "Weekday" setting **8** "Hour" setting **51** "Minutes" setting



SWITCHING TIMES AND PROGRAM SETTING



2 "Weekday" setting (the other day)

 Time program start

 Time program end

1 Time program number

06 Time program hours setting

51 Time program minutes setting



Room sensor

CONTROL SENSOR SELECTION

You can select from two sensors for temperature control. You can select from the room sensor or outlet air sensor.



Outlet sensor



Winter

HEAT UP MODE SELECTION - WINTER/SUMMER

Most modern heating systems do not pre-heat heating medium during summertime for economic reasons. If you do not use a system like this and you DO NOT WANT HEATING in summertime in case of sudden temperature drop, select SUMMER=OFF. The heating will be passive in this mode (with the exception of anti-frost protection).



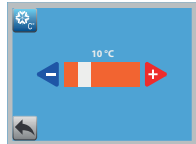
Summer



ANTI-FROST PROTECTION

Anti-frost protection at exhaust sensor:

At 4°C the valve opens fully, fans will switch to 85% output (EC) / 2nd level (AC) and relay failure switches. In case the temperature drop continues, the valve opens and fans are off at 1°C on the exhaust sensor.



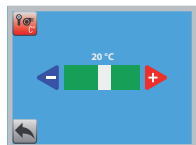
Anti-frost protection on spatial sensor:

defined by a value entered on the panel. At this temperature the valve opens fully, fans will switch to 85% output (EC) / 2nd level (AC) and relay failure switches. In case the temperature drop continues, the valve opens and fans are off at 4°C on the spatial sensor.



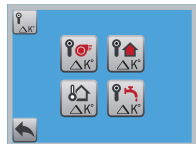
MINIMUM OUTLET TEMPERATURE

This feature makes the controller to keep minimum temperature at the outlet sensor regardless temperature of the control sensors.



CORRECTION OF TEMPERATURE SENSORS

+/- °C corrections setup for each temperature sensor.



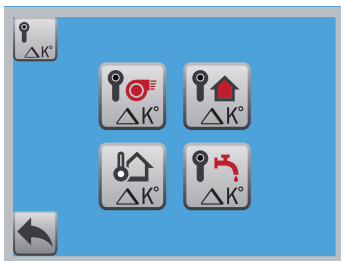
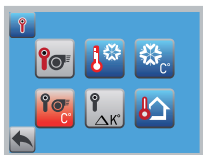
Outdoor sensor OFF

ACTIVATION OF THE OUTDOOR SENSOR

Activation of the outdoor sensor displays current outdoor temperature. Automatic fan control based on the outdoor temperature can be activated in the service menu.

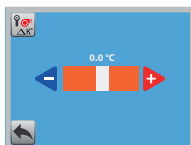


Outdoor sensor ON



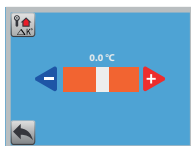
CORRECTION OF EXHAUST SENSOR

If the exhaust sensor measures fuzzily for some reason, you can use this correction to move the measured exhaust temperature $+/-$ °C.



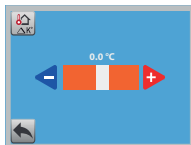
CORRECTION OF ROOM SENSOR

If you did not succeed in placing the spatial sensor for architectural or spatial reasons, and the sensor gives biased results, you can modify the measured temperature $+/-$ °C by the correction. The correction is needed in case the sensor is either sunk in sunlight or cooled.



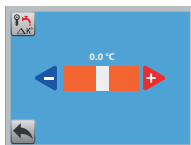
CORRECTION OF OUTDOOR SENSOR

If you did not succeed in placing the outdoor sensor for architectural or spatial reasons, and the sensor gives biased results, you can modify the measured temperature $+/-$ °C by the correction. The correction is needed in case the sensor is either sunk in sunlight or cooled. The outdoor sensor must be enabled.




CORRECTION OF MEDIA SENSOR

If the media sensor measures fuzzily for some reason, you can use this correction to move the measured media temperature $+/-$ °C. Out of order if the outdoor sensor is enabled.




Door
contact OFF

PERMISSION OF THE DOOR CONTACT

This function controls the air curtain depending on the door position (door contact). The icon signals door position (closed/open). Unless **automatic mode „A“**  was enabled, the controller switches off (with time rundown) after the door is closed. The contact is potential-free. You can use automatic door sliding electronics for the contact or mechanic or magnetic door contact (optional accessories). Maximum door contact load 24V DC/3A.



Door
contact ONDoor contact
switching
OFF

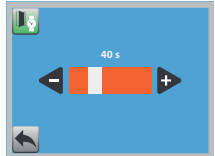
DOOR CONTACT POSITION SELECTION

If the door contact (door position) you have selected does not respond to the signaled icon you must the inverse condition of the contact. Change the switching contact to switching off to get correct contact position to the controller icon. This setting is active only if the **door contact was enabled**. 

Door contact
switching
ON

DOOR CONTACT TIME RUNDOWN

Considering lifecycle of the equipment and stable operation it is recommended that the optimum time rundown of the equipment following the door is closed be configured (switch off the door contact). Do not set time too short; recommended time is 60s – see factory setting. Setting range 10-240s in 5s increments. This setting is active only if the **door contact was enabled**.  For **automatic mode**  no time rundown is operational (or corresponds to 0s setting).



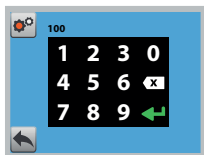
On condition

DOOR CONTACT VALVE FUNCTION SETTING

Selecting OFF when door is closed makes sure the valve closes regardless heating start is needed or not based on the difference between set and measured temperatures. Selecting ON when door is closed keeps the valve in position depending on the controller temperature evaluation, i.e. the valve keeps open (in case heating request from the controller temperature requirements set and temperatures measured on the sensors) or closed (where there is no request for heating from set and measured temperatures).



Off condition



After user code is entered



Sound
OFF

TURNING SOUND ON

Selected fan and heating levels are signaled audibly. Level 1 = 1 sound. You can turn the sound off by selecting OFF.



Sound
ON



Sound
OFF

KEYBOARD LOCK

To avoid unauthorized access to the controller operation, the keyboard control may be locked. If you wish to lock the keyboard, select ON. The keyboard locks automatically after 60 seconds of inactivity. Enter a user code to unlock the keyboard.

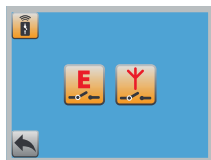


Sound
ON



EXTERNAL SIGNAL

This function enables external control (turning on enables) from a superior place. The controller can not be started if the contact is switched off (potential-free contact). When the icon is lit, the contact is active, and if the icon blinks, the contact is interrupted. If the function is enabled remote control is not possible. Maximum door contact load 24V DC/3A.



Automatic
mode ON

CONTROLLER AUTOMATIC MODE

This function provides automatic operation of the controller depending on the door position (door contact). When the door is closed and the function is enabled the controller switches automatically to minimum levels of heating and fan but only in case the temperatures measured on the sensor and required temperature setting stands for heating status. The fan remains off if the temperature evaluation results in no heating request. Fan operation selection with automatic function on when door is closed also depends on differences in temperatures from the sensors and required temperature. If the difference is less than 2K (°C), speed "1" is set automatically; the speed "2" is set for the difference 3°C ÷ 5,5°C, and 6°C and more sets "3" speed. Reopening of the door switches the selected levels. When the icon is lit the mode is active. The door contact enables and sets automatically if you select A = ON.

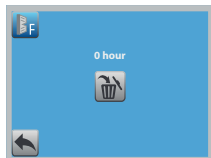


Automatic
mode OFF



FILTER MAINTENANCE INTERVAL

The unit automatically signals the air filter cleaning request. Reset the fan operation counter after the filter cleaning.



Heating up
mode ON

HEATING UP MODE

The heating up mode function is included in the controller for case sudden temperature losses need to be balanced in the space where the air curtain is installed. If the function is enabled the controller starts full fan and heating power available. The heating up mode operates for the term set in **heating up mode time** parameter. Activate the heating up mode by pressing HEATING button for 5 seconds.

Then, confirm the selection by pressing "ENTER" button. Press any button to deactivate the function, i.e. to return to previous setting.



Heating up
mode OFF



EXTERNAL CONTACT

External contact ON

This feature permits external control (turning on enabled) from a superior point. If the contact (potential-free contact) is open, the device may not be turned on. A lit icon indicates that the contact is active. When the feature is enabled, remote radio controller control is disabled. Maximum contact load 24VDC/3A.



External contact OFF



REMOTE RADIO CONTROL

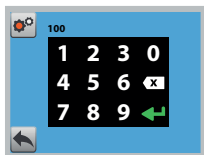
Remote control ON

This feature permits remote ON/OFF control of the device wirelessly (by a key fob). A lit icon indicates that the contact is active. When the feature is enabled, external contact control is disabled. The remote controller is not a standard item in the scope of supply (optional item).

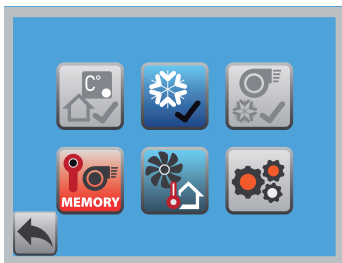


Remote control OFF

* "Remote control / radio contact" function available only for original controllers DITRONIC W/T, DITRONIC E/T.



After service code is entered



Restricting thermostat OFF

RESTRICTING THERMOSTAT ENABLE

When the set temperature is achieved (outdoor or additional interior temperature), this function may be used to restrict the air curtain (fan and heating or heating only). **Function type selection**, see . The contact can be used to turn (restrict) off the heating based on equithermal control.



Restricting thermostat ON



Anti-frost protection ON

ANTI-FROST PROTECTION (AFP)

AFP off (for the heat exchanger* and the room)
*applies to hot water version only.



Anti-frost protection OFF



Fan at AFP is OFF

FAN OPERATION AT ANTI-FROST PROTECTION SELECTION (AFP)

This function enables control of the condition that occurs when AFP temperature is achieved. OFF = valve is full open and the fan is off. ON = valve is full open and the fan operates without change according to the controller. The function is active if the controller is not in the level 2 of the anti-frost protection. The AFP does never run in the level 2 to eliminate further drop. Recommendation: Always select OFF if the air curtain is used for heating as well (balances sudden thermal losses).

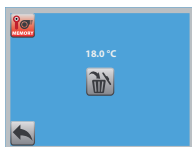


Fan at AFP is ON



RETAIN LOWEST TEMPERATURE OF OUTLET SENSOR

The controller can retain the lowest temperature achieved at the outlet sensor. This data is used as information about medium temperature. For most customers this information can demonstrate that the heat exchanger has frozen.



FAN CONTROL SETTING BY OUTDOOR TEMPERATURE

Activation of the fan control by outdoor temperature and setting of the limit temperatures for switching between levels.



OTHER SETTINGS

You can set other parameters here.



Fan regulation from outside temp OFF

FAN CONTROL BY OUTDOOR TEMPERATURE

If activated, this function can control the fan speeds by outdoor temperature. This feature may be enabled only when door contact  and outdoor sensor  are enabled.

In default the following limit temperatures are configured for switching between the fan speeds:


0 and 1 (version AC)	5°C	0% ÷ 20%	(version EC)	10°C
1 and 2 (version AC)	-5°C	20% ÷ 40%	(version EC)	5°C
2 ana 3 (version AC)	-10°C	40% ÷ 60%	(version EC)	-5°C
		60% ÷ 80%	(version EC)	-7°C
		80% ÷ 100%	(version EC)	-10°C



Fan regulation from outside temp ON



LIMIT TEMPERATURES FOR SWITCHING BETWEEN THE FAN SPEEDS

Temperatures at which each fan speeds are switched can be configured manually. AC speeds of the fans may not be configured; their speeds are fixed. Active only if the **fan control by outdoor temperature** is set to  ON.



EC version

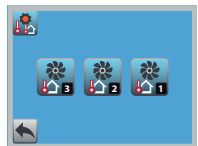


LIMIT TEMPERATURES FOR TRANSITION BETWEEN FAN SPEEDS

The limit temperatures for transition of fans to higher or lower revolution speeds may be user-defined. For example for EC motors, when speed 5 is configured, the limit temperature = -10°C and fan revolutions = 100%, which means that if -10°C or less is outputted from the outdoor sensor, the unit fans will rotate at 100% (depending on the door contact, rundown, and more).



EC version





AC version

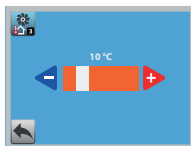


AC version

LIMIT TEMPERATURE FOR SWITCHING THE FAN TO THIRD SPEED (AC)

Manual configuration of outdoor temperature at which third speed of the fan (AC version) switches on automatically.

The procedure for configuration of the outdoor temperatures for switching of the fan speeds  and  is identical.



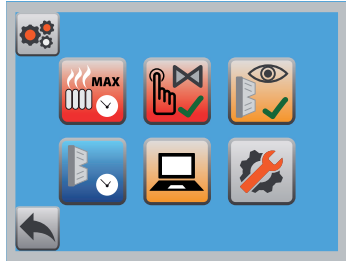
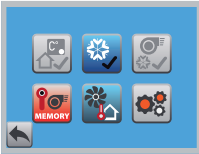
EC version

LIMIT TEMPERATURE FOR SWITCHING THE FAN TO 100% REVS SPEED (EC)

Manual configuration of outdoor temperature at which fan 100% revs speed (EC version) switches on automatically. The procedure for configuration of the outdoor temperatures for switching

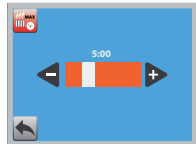
    is identical.





HEATING UP MODE TIME SETTING

If you enabled the heating up mode you can set period of time for which the heating up mode will be functional. The range of setting 3-15 minutes. 0.5min increments.



Valve
manually ON

MANUAL VALVE TEST

This function permits to check valve opening and closing without change to other parameters. This function is usually used to test valve opening and closing. (Available only for electro-thermal head.) This function operates for hot water air curtains only.



Valve
manually OFF



Filter
counter ON

FILTER COUNTER DISPLAY ENABLE

This function enables activation of working hours counter of the fan for the filter maintenance interval. Not available for the electric units.

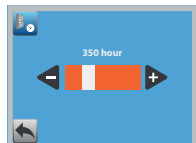


Filter
counter OFF



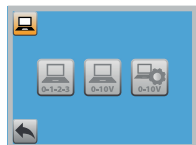
FILTER MAINTENANCE INTERVAL SETTING

This function can define the maintenance interval for cleaning of the filter according to working hours of the fan. The **F** symbol appears after the value is exceeded. Twenty hours before the interval ends the **F** symbol blinks as warning of approaching maintenance.



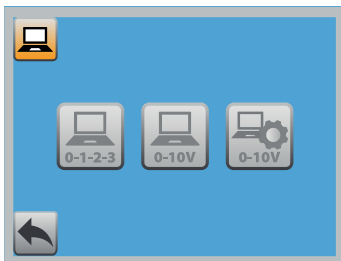
SUPERIOR SYSTEM UNIT CONTROL ENABLE (BMS)

External control of the controller from a superior system. Analog / digital selection.




OTHER SETTINGS

You can set other parameters here.



BMS Digital
OFF

SUPERIOR SYSTEM CONTROL SWITCH ON ENABLE (BMS) - DIGITAL CONTROL

This selection activates the request for control of the equipment from a superior system. As standard you can use 3-level control of the fan and heater. The other control options (0-10V) require intervention of a service technician and the procedure is not a part of this control level; (not included – see the price list of service works). The inputs are potential-free contacts. Make sure you always switch the first level of the heater and fan only. If the function is selected, you have no manual control over the controller (the controller is fully controlled from the superior system). When icon  is lit, the BMS mode is active. The BMS is connected in the air curtain electronics as it is clear from the drawings. Maximum door contact load 24V DC/3A.



BMS Digital
ON



BMS Analog
OFF

SUPERIOR SYSTEM CONTROL SWITCH ON ENABLE (BMS) – ANALOG CONTROL

If you want to control the controller from a superior system by 0-10V signal, select ON.



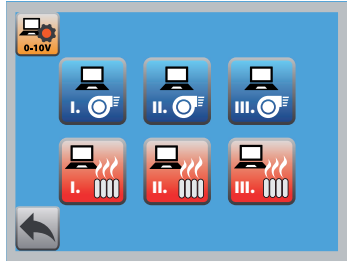
BMS Analog
ON



BMS SETTING OF FAN AND HEATING VOLTAGE LEVELS FOR ANALOG VERSION

Access to set each voltage level for the fan and heating.



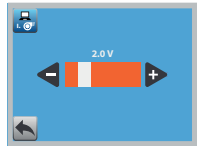


BMS – FAN – LEVEL 1

Setting of switching value for 0–10V signal.

Fan level 1

0.5V increments, range 1–10V.

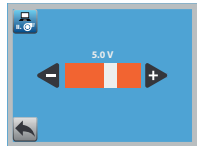


BMS – FAN – LEVEL 2

Setting of switching value for 0–10V signal.

Fan level 2

0.5V increments, range 1–10V.

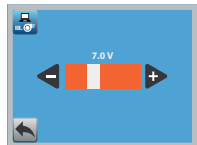


BMS – FAN – LEVEL 3

Setting of switching value for 0–10V signal.

Fan level 3

0.5V increments, range 1–10V.

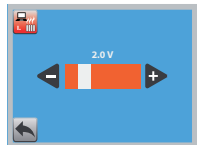


BMS – HEATING – LEVEL 1

Setting of switching value for 0–10V signal.

Heating level 1

0.5V increments, range 1–10V.

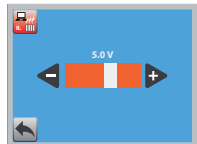


BMS – HEATING – LEVEL 2

Setting of switching value for 0–10V signal.

Heating level 2

0.5V increments, range 1–10V.

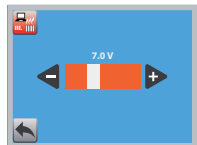


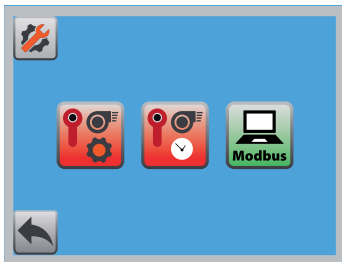
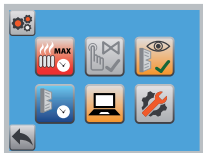
BMS – HEATING – LEVEL 3

Setting of switching value for 0–10V signal.

Heating level 3

0.5V increments range 1–10V.





OUTLET SENSOR MINIMUM SWITCHING TEMPERATURE SETTING

This parameter enables to set temperature for short-term turning the electric heater off, provided that the temperature was achieved due to overheating of the heater or as protection or damage to some air curtain components often leading to fire. Temperature is always read from the outlet sensor. Time period the heater is off is set in outlet sensor response parameter.

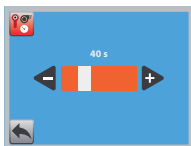
This function is available for electric air curtains only.

Please proceed carefully when working with this function. 5°C increments, range 40-50°C.



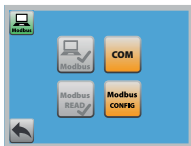
DELAYED OUTLET SENSOR RESPONSE

Setting of time when the heater is off (additional cooling). 10s increments, range 10-120s. This function is available for electric air curtains only. Please proceed carefully when working with this function.



MODBUS

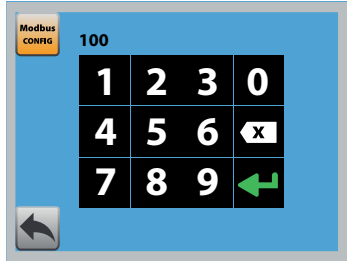
Configuration and system control permission from Modbus.



COMMUNICATION PARAMETERS

Selection of communication parameters MODBUS:

- 9600bps 8E1 (default)
- 9600bps 8N2
- 9600bps 8O1
- 9600bps 8N1
- 19200bps 8E1
- 19200bps 8N2
- 19200bps 8O1
- 19200bps 8N1



MODBUS CONTROL ON

If you want to control the controller from the Modbus system select Modbus ON.

Modbus
OFF



Modbus
ON



MODBUS READ

Select ModBus READ function for manual control combined with status feedback using ModBus parameters.

Modbus READ
OFF



Modbus READ
ON



MODBUS ADDRESS CONFIGURATION

You can assume the factory setting of the Modbus configuration or modify the configuration as you desire. Follow the procedure on page 18.

Download the MODBUS communication interface parameters from:
www.stavoklima.cz/download.html





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