

Product manual

Air curtains

SONATA 3

Air distribution

Version 1.0.1
Date: 19.04.2024

SONATA 3

- Lengths: 1.0; 1.5; 2.0; 2.5 m
- Air flow up to 3500 m³/h (ISO 27 327-1)
- Straw System – maximized screening effect
- Universal interface for AirGENIO control module connection (BA, CO, SU)
- Low profile design
- Standard colour RAL 9016 (any RAL – based colours may be provided on customer's request)




Sonata 3 is low profile design air curtain for use in retail shops, shopping centres, restaurants, administrative buildings and manufacturing facilities with a recommended installation height up to 3 m*.

The air curtain shall be installed indoors in a dry environment with ambient temperatures ranging from 0 °C up to +40 °C and relative humidity of up to 80 %. It is designed for conveying air free of fine dust, grease, chemical fumes, and other impurities. IP rating of the air curtain is IP 20. It is recommended that air curtain projects always be developed by an HVAC designer or engineer.



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PRODUCT OVERVIEW

-  air-only
-  water heater
-  electric wire heater

PRIMARY PARAMETERS

Air curtains with electric heaters are equipped with an automatic heat thermostat and emergency thermostat with manual reset. Air curtains with LPHW coil are designed for a maximum operating water temperature of +130 °C and a maximum operating pressure of 1.6 MPa.

Type	Recommended installation height [m]	Air output [m³/h] *1			Acoustic pressure at 3m [dB(A)]*2			Sound power [dB(A)]*3
		Speed 3	Speed 2	Speed 1	Speed 3	Speed 2	Speed 1	
SONATA 3-10-E0	3	1350	900	700	48	38	29	69
SONATA 3-15-E0		2200	1550	1150	50	44	35	71
SONATA 3-20-E0		3000	2200	1450	34	45	51	72
SONATA 3-25-E0		3500	3200	2350	45	52	51	74
SONATA 3-10-E1		1350	900	700	48	38	29	69
SONATA 3-15-E1		2200	1550	1150	50	44	35	71
SONATA 3-20-E1		3000	2200	1450	34	45	51	72
SONATA 3-25-E1		3500	3200	2350	45	52	51	74
SONATA 3-10-E2		1350	900	700	48	38	29	69
SONATA 3-15-E2		2200	1550	1150	40	44	35	71
SONATA 3-20-E2		3000	2200	1450	34	45	51	72
SONATA 3-25-E2		3500	3200	2350	45	52	52	74
SONATA 3-10-W		1300	900	700	47	40	34	68
SONATA 3-15-W		2000	1500	1150	49	44	37	71
SONATA 3-20-W		2950	2300	1650	51	48	39	73
SONATA 3-25-W		3700	3200	2350	52	52	44	74
SONATA 3-10-N		1350	900	700	48	38	29	69
SONATA 3-15-N		2200	1550	1150	50	44	35	71
SONATA 3-20-N		3000	2200	1450	34	45	51	72
SONATA 3-25-N		3500	3200	2350	45	52	51	74

Type	Heater power output [kW] (*LPHW 90/70°C)		Total power input [kW]	Total voltage/current [V/A]	Motor voltage/current [V/A]	Temperature increase Δt [°C]*4	Frequency [Hz]	Weight [kg]*5
	1st level	2nd level						
SONATA 3-10-E0	3,2	4,7	4,90	400 / 13,7	230 / 0,6	10,3	50/60	23,0
SONATA 3-15-E0	3,8	7,5	7,70	400 / 11,9	230 / 0,9	10,1		29,0
SONATA 3-20-E0	4,8	9,5	9,80	400 / 15,8	230 / 1,4	9,4		37,0
SONATA 3-25-E0	6,9	12,2	12,60	400 / 19,4	230 / 1,4	10,4		44,0
SONATA 3-10-E1	3,2	6,3	6,50	400 / 14,4	230 / 0,6	13,9		23,0
SONATA 3-15-E1	5	10	10,20	400 / 21,3	230 / 0,9	13,5		29,0
SONATA 3-20-E1	6,3	12,6	12,90	400 / 27,9	230 / 1,4	12,5		37,0
SONATA 3-25-E1	8,2	16,3	16,70	400 / 26	230 / 1,4	13,8		44,0
SONATA 3-10-E2	4,7	9,5	9,70	400 / 14,3	230 / 0,6	20,9		23,0
SONATA 3-15-E2	7,5	15	15,20	400 / 22,6	230 / 0,9	20,3		29,0
SONATA 3-20-E2	9,5	19	19,30	400 / 28,8	230 / 1,4	18,8		37,0
SONATA 3-25-E2	12,2	24,5	24,90	400 / 36,8	230 / 1,4	20,8		44,0
SONATA 3-10-W	16,0		0,20	230 / 0,6	230 / 0,6	36,4		25,0
SONATA 3-15-W	23,6		0,20	230 / 0,9	230 / 0,9	35,0		31,0
SONATA 3-20-W	34,0		0,30	230 / 1,4	230 / 1,4	34,1		41,0
SONATA 3-25-W	42,9		0,40	230 / 1,4	230 / 1,4	34,3		48,0
SONATA 3-10-N	-	-	0,10	230 / 0,6	230 / 0,6	-		22,0
SONATA 3-15-N	-	-	0,20	230 / 0,9	230 / 0,9	-		28,0
SONATA 3-20-N	-	-	0,30	230 / 1,4	230 / 1,4	-		36,0
SONATA 3-25-N	-	-	0,40	230 / 1,4	230 / 1,4	-		42,0

*1 Airflow volume according ISO27327-1

*2 Acoustic pressure values at 3m distance for maximum speed. Directional factor: Q=2.

*3 Sound power (LWA) measurements according to ISO 27327-2.

*4 Intake air temperature +18°C, at maximum heating level and highest fan speed.

*5 Weight without controls.

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PRODUCT OVERVIEW

LPHW coil parameters for water temperature gradient of 90/70 °C

Type	Air output [m³/h]	Heating output [kW]	Temperature at exhaust [°C]	Pressure loss [kPa]	Water flow [l/s]
SONATA 3-10-W	23,0	16,85	51,7	13,93	0,20
SONATA 3-15-W	29,0	24,70	50,9	10,01	0,30
SONATA 3-20-W	37,0	35,74	50,5	14,52	0,43
SONATA 3-25-W	44,0	43,26	52,2	22,76	0,53

* Temperature of intake air: +18 °C

LPHW coil parameters for water temperature gradient of 80/60 °C

Type	Air output [m³/h]	Heating output [kW]	Temperature at exhaust [°C]	Pressure loss [kPa]	Water flow [l/s]
SONATA 3-10-W	1500	14,10	46,2	10,30	0,17
SONATA 3-15-W	2250	20,58	45,4	7,26	0,25
SONATA 3-20-W	3300	29,79	45,1	10,59	0,36
SONATA 3-25-W	3800	36,22	46,6	16,68	0,44

* Temperature of intake air: +18 °C

LPHW coil parameters for water temperature gradient of 70/50 °C

Type	Air output [m³/h]	Heating output [kW]	Temperature at exhaust [°C]	Pressure loss [kPa]	Water flow [l/s]
SONATA 3-10-W	1500	11,23	40,5	6,97	0,14
SONATA 3-15-W	2250	16,34	39,8	4,91	0,19
SONATA 3-20-W	3300	23,65	39,5	6,97	0,28
SONATA 3-25-W	3800	28,93	40,8	11,18	0,35

* Temperature of intake air: +18 °C

LPHW coil parameters for water temperature gradient of 60/40 °C

Type	Air output [m³/h]	Heating output [kW]	Temperature at exhaust [°C]	Pressure loss [kPa]	Water flow [l/s]
SONATA 3-10-W	1500	8,27	34,5	4,12	0,10
SONATA 3-15-W	2250	11,86	33,8	2,75	0,14
SONATA 3-20-W	3300	17,26	33,7	4,02	0,20
SONATA 3-25-W	3800	21,33	34,8	6,47	0,26

* Temperature of intake air: +18 °C

Recommended mixing points for LPHW coil 2-way valve

Type	Control module	90/70 °C	80/60 °C	70/50 °C	60/40 °C
		2-way valve			
SONATA 3-10-W	RGJ-VCES2-BA	ZV2-230-08,0-20	ZV2-230-08,0-20	ZV2-230-08,0-20	ZV2-230-08,0-20
	RGJ3-VCES2-CO	ZV2-230-08,0-20	ZV2-230-08,0-20	ZV2-230-08,0-20	ZV2-230-08,0-20
	RGJ3-VCES2-SU	ZV2-024-08,0-20	ZV2-024-08,0-20	ZV2-024-08,0-20	ZV2-024-08,0-20
SONATA 3-15-W	RGJ-VCES2-BA	ZV2-230-08,0-20	ZV2-230-08,0-20	ZV2-230-08,0-20	ZV2-230-08,0-20
	RGJ3-VCES2-CO	ZV2-230-08,0-20	ZV2-230-08,0-20	ZV2-230-08,0-20	ZV2-230-08,0-20
	RGJ3-VCES2-SU	ZV2-024-08,0-20	ZV2-024-08,0-20	ZV2-024-08,0-20	ZV2-024-08,0-20
SONATA 3-20-W	RGJ-VCES2-BA	ZV2-230-08,0-20	ZV2-230-08,0-20	ZV2-230-08,0-20	ZV2-230-08,0-20
	RGJ3-VCES2-CO	ZV2-230-08,0-20	ZV2-230-08,0-20	ZV2-230-08,0-20	ZV2-230-08,0-20
	RGJ3-VCES2-SU	ZV2-024-08,0-20	ZV2-024-08,0-20	ZV2-024-08,0-20	ZV2-024-08,0-20
SONATA 3-25-W	RGJ-VCES2-BA	ZV2-230-21,0-20	ZV2-230-08,0-20	ZV2-230-08,0-20	ZV2-230-08,0-20
	RGJ3-VCES2-CO	ZV2-230-21,0-20	ZV2-230-08,0-20	ZV2-230-08,0-20	ZV2-230-08,0-20
	RGJ3-VCES2-SU	ZV2-024-16,0-25	ZV2-024-08,0-20	ZV2-024-08,0-20	ZV2-024-08,0-20

* Additional reduction needed from DN25 to DN20

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**Recommended mixing points for LPHW coil
3-way valve**

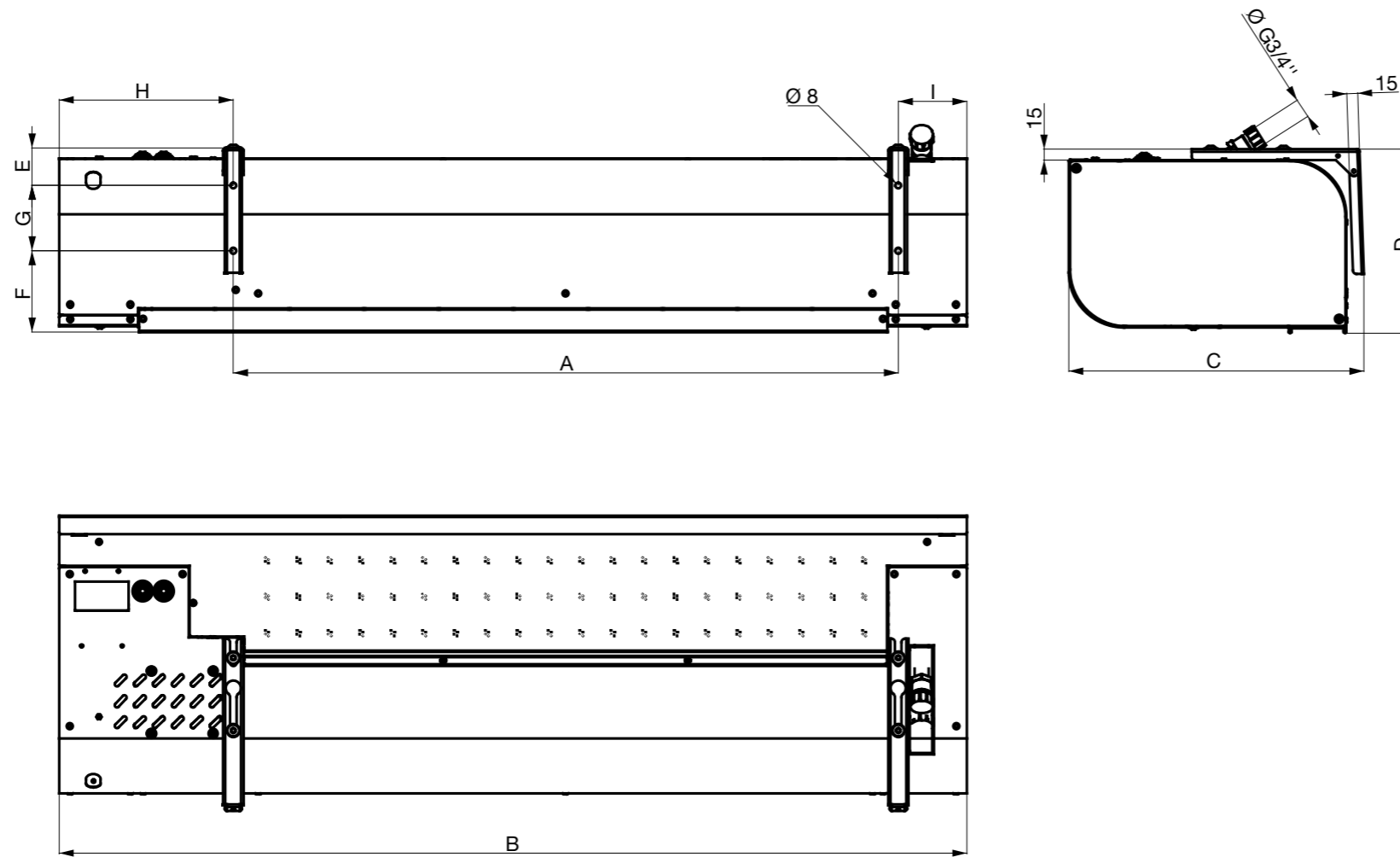
Type	Control module	90/70 °C	80/60 °C	70/50 °C	60/40 °C
		3-way valve			
SONATA 3-10-W	RGJ-VCES2-BA	ZV3-230-04,0-20	ZV3-230-04,0-20	ZV3-230-04,0-20	ZV3-230-04,0-20
		RT-3-07	RT-3-07	RT-3-07	RT-3-07
	RGJ3-VCES2-CO	ZV3-230-04,0-20	ZV3-230-04,0-20	ZV3-230-04,0-20	ZV3-230-04,0-20
SONATA 3-15-W	RGJ-VCES2-BA	ZV3-230-21,0-20	ZV3-230-04,0-20	ZV3-230-04,0-20	ZV3-230-04,0-20
		RT-3-07	RT-3-07	RT-3-07	RT-3-07
	RGJ3-VCES2-CO	ZV3-230-04,0-20	ZV3-230-04,0-20	ZV3-230-04,0-20	ZV3-230-04,0-20
SONATA 3-20-W	RGJ-VCES2-BA	ZV3-024-04,0-20	ZV3-024-04,0-20	ZV3-024-04,0-20	ZV3-024-04,0-20
		RT-3-07	RT-3-07	RT-3-07	RT-3-07
	RGJ3-VCES2-CO	ZV3-230-21,0-20	ZV3-230-21,0-20	ZV3-230-21,0-20	ZV3-230-04,0-20
SONATA 3-25-W	RGJ-VCES2-BA	ZV3-230-21,0-20	ZV3-230-21,0-20	ZV3-230-21,0-20	ZV3-230-04,0-20
		RT-3-07	RT-3-07	RT-3-07	RT-3-07
	RGJ3-VCES2-CO	ZV3-230-21,0-20	ZV3-230-21,0-20	ZV3-230-21,0-20	ZV3-230-04,0-20
	RGJ3-VCES2-SU	ZV3-024-06,3-20	ZV3-024-06,3-20	ZV3-024-06,3-20	ZV3-024-04,0-20

* Additional reduction needed from DN25 to DN20

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DIMENSIONS



Type	A	B	C	D	E	F	G	H	I
SONATA-3-100	913	1190	377	252	51	111	90	211	67
SONATA-3-150	1321	1600	377	252	51	111	90	211	67
SONATA-3-200	1822	2100	377	252	51	111	90	211	67
SONATA-3-250	2232	2510	377	252	51	111	90	211	67

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ORDERING KEY

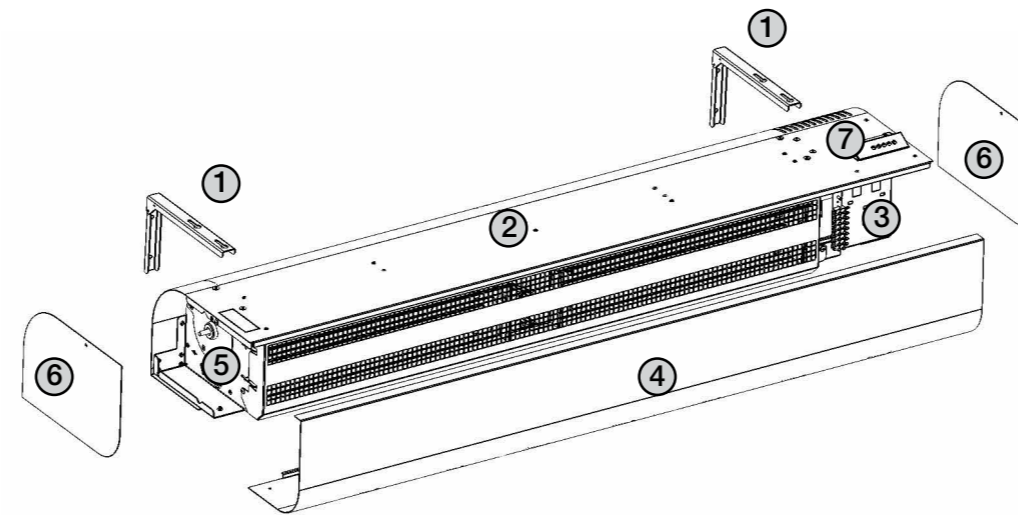
AIR CURTAINS

ORDERING KEY

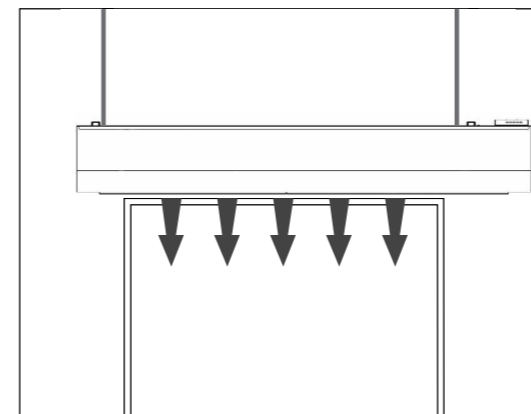
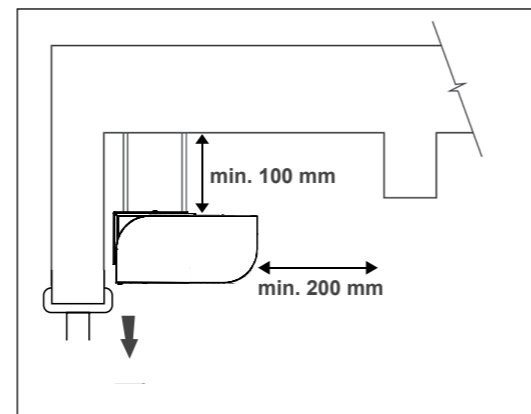
(1) Air curtain	-	(2) Length	-	(3) Heating
SONATA 3		25		E1
(1) Air curtain: SONATA 3		(2) Length: 10 - 1 m 15 - 1.5 m 20 - 2 m 25 - 2.5 m		(3) N – without heating regulation E1 – with electric heater regulation (Air curtains length 100, 150) E2 – with electric heater regulation (Air curtains length 200, 250) W – with water heater regulation

INSTALLATION AND ASSEMBLY

- The air curtain must be installed in a horizontal position only.
- The air curtain shall be located as close as possible to the top edge of the doorway, and a distance from walls that is in accordance with fire safety and building codes of the country where unit is installed. For manufacturer recommended distance see figures below.
- To ensure proper function it is recommended that the air curtain overlaps the doorway by 100 mm on both sides.
- Correct operation of the air curtain requires that specified distances from the surrounding objects are observed, see figure.
- Please take note of water and power supply connections when installing air curtain.
- The air curtain shall be installed using supplied brackets.



- ① Mounting brackets (included with delivery)
- ② Top cover
- ③ Connection dock for controls module
- ④ Intake grill
- ⑤ Connection dock for LPHW
(only on water versions)
- ⑥ Side cover
- ⑦ Main power supply connection



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INSTALLATION

CONTROL

Overview of AirGENIO functions and sensor connections

AirGENIO control	BASIC VCES2-AGBA1-M-EC	COMFORT VCES2-AGCO1-M-EC	SUPERIOR VCES2-AGSU1-M-EC
Type of controller	Manual	Touch screen	Touch screen
Mode	Manual	Manual / Auto	Manual / Auto
Control of air output	3 speeds	3 speeds	3 speeds
Control of electric heater	OFF / Level1 / Level2	OFF / Level1 / Level2	YES (PWM)
Control of water heater	ON/OFF	ON/OFF	0-10V
Antifreeze protection of LPHW	NO	YES	YES
Possibility of connecting a door contact	YES (230V)	YES (12V)	YES (12V)
External control	NO	YES	YES
Temperature measurement	NO	YES (NTC)*	YES (NTC)*
Chaining air curtains	NO	YES – max 10+1 pcs	YES – max 10+1 pcs
Indication of selected function	NO	YES (Display)	YES (Display)
Controller connection to air curtain	Power wire	Communication cable (UTP)	Communication cable (UTP)
Self learning mode	NO	YES	YES
BMS connection	NO	Modbus RTU	Modbus RTU, Modbus TCP, BACnet
Error contact	NO	YES	YES
2 nd control panel ready	NO	YES	YES

* Temperature sensor included in standard. Temperature shown on display.

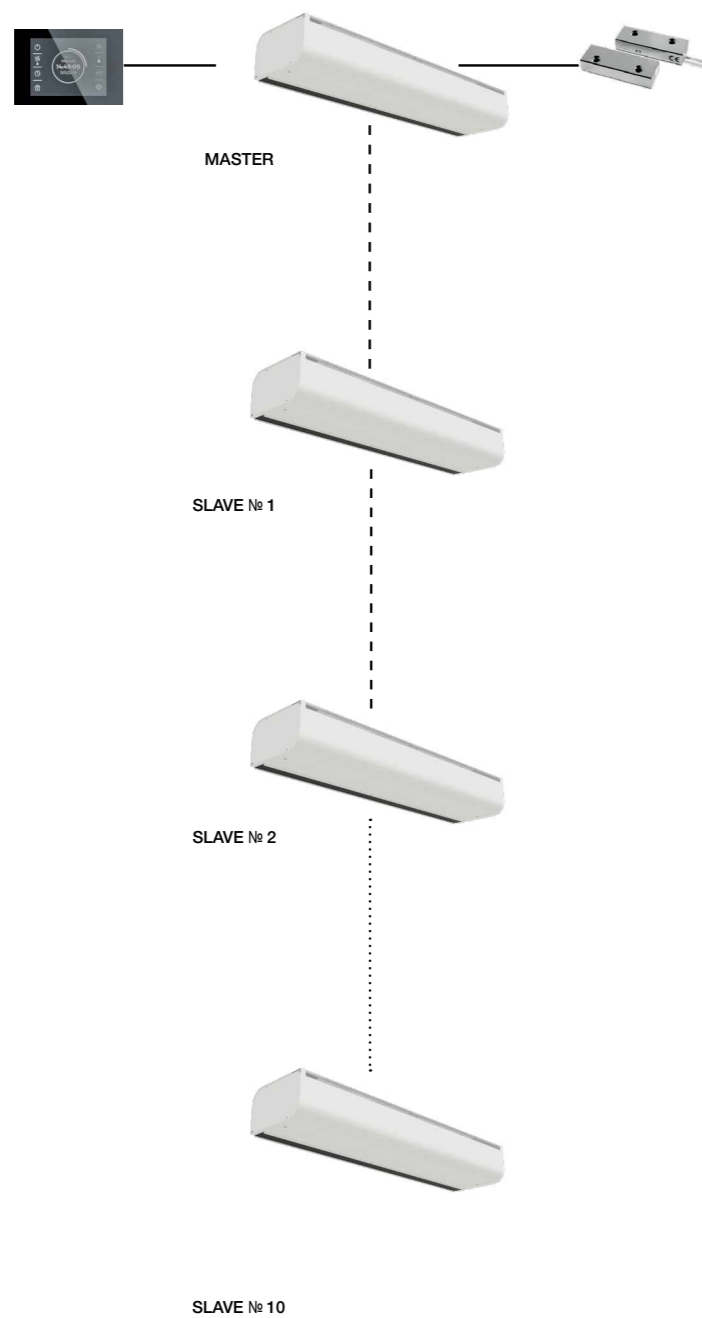
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CONTROL

CHAINING EXAMPLE

COMFORT / SUPERIOR

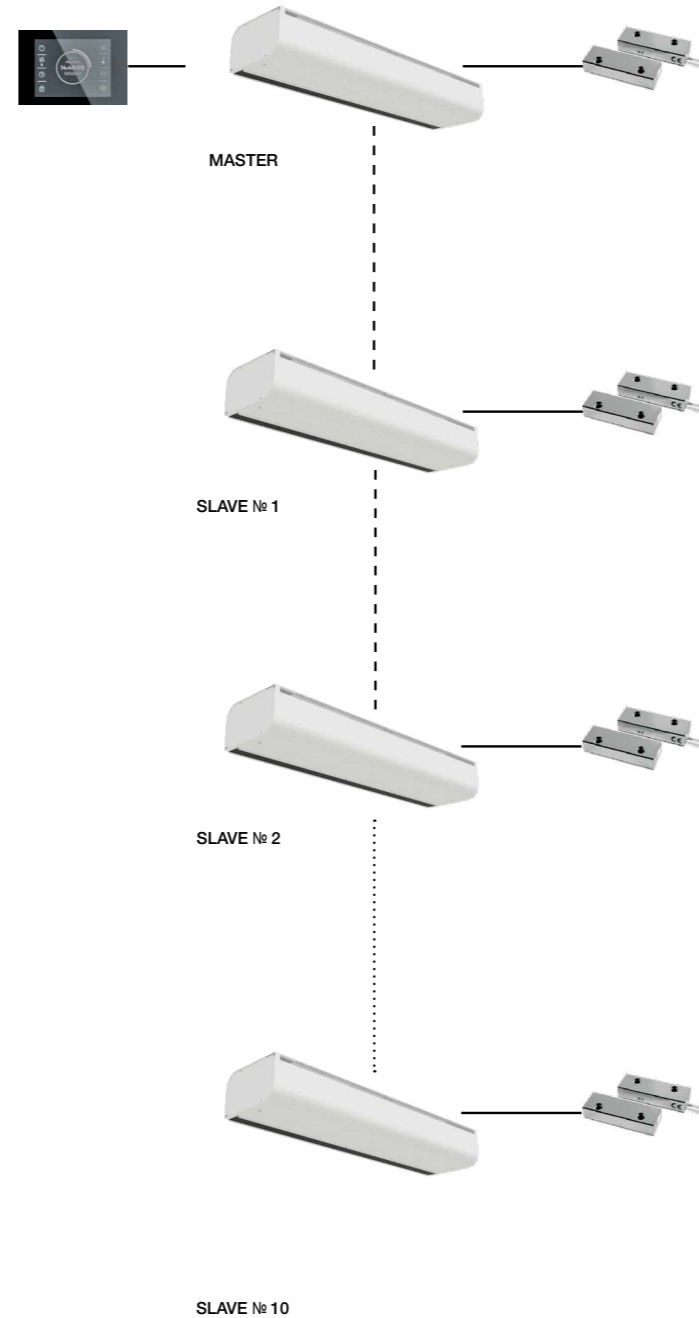
Global Door contact function active



¹⁾ Optional accessories

COMFORT / SUPERIOR

Global Door contact function not active

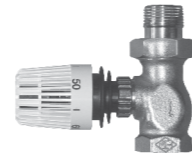


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CONTROL

ACCESSORIES

2-way Thermostatic valve
TV-1-1/1



Mechanical door switch (230V)
DS



2-way or 3-way valve with servo drive (230V)
ZV2-230-xx,x-xx (Basic, Comfort)
ZV3-230-xx,x-xx (Basic, Comfort)
ZV2-024-xx,x-xx (Superior)
ZV3-024-xx,x-xx (Superior)



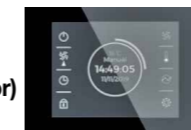
Magnetic door contact (12V) in a metal housing with higher protection against mechanical damage
DK-B-3



2-way or 3-way valve with servo drive RT
RT-3-07 (KVS 7) (Basic, Comfort)



2nd Control panel
ND-REMOTE-CONTROL (Comfort, Superior)



Room thermostat
TER-P



Mixing node
SMU2-230-xx (for control BASIC, COMFORT)
SMU2-024-xx (for control SUPERIOR)



Room temperature sensor
CT-ROOM



	BASIC	COMFORT	SUPERIOR
	RGJ-VCES2-BA	RGJ3-VCES2-CO	RGJ3-VCES2-SU
DS	✓	✓*	✓*
DK-B-3	✗	✓	✓

* Recommended for industry use

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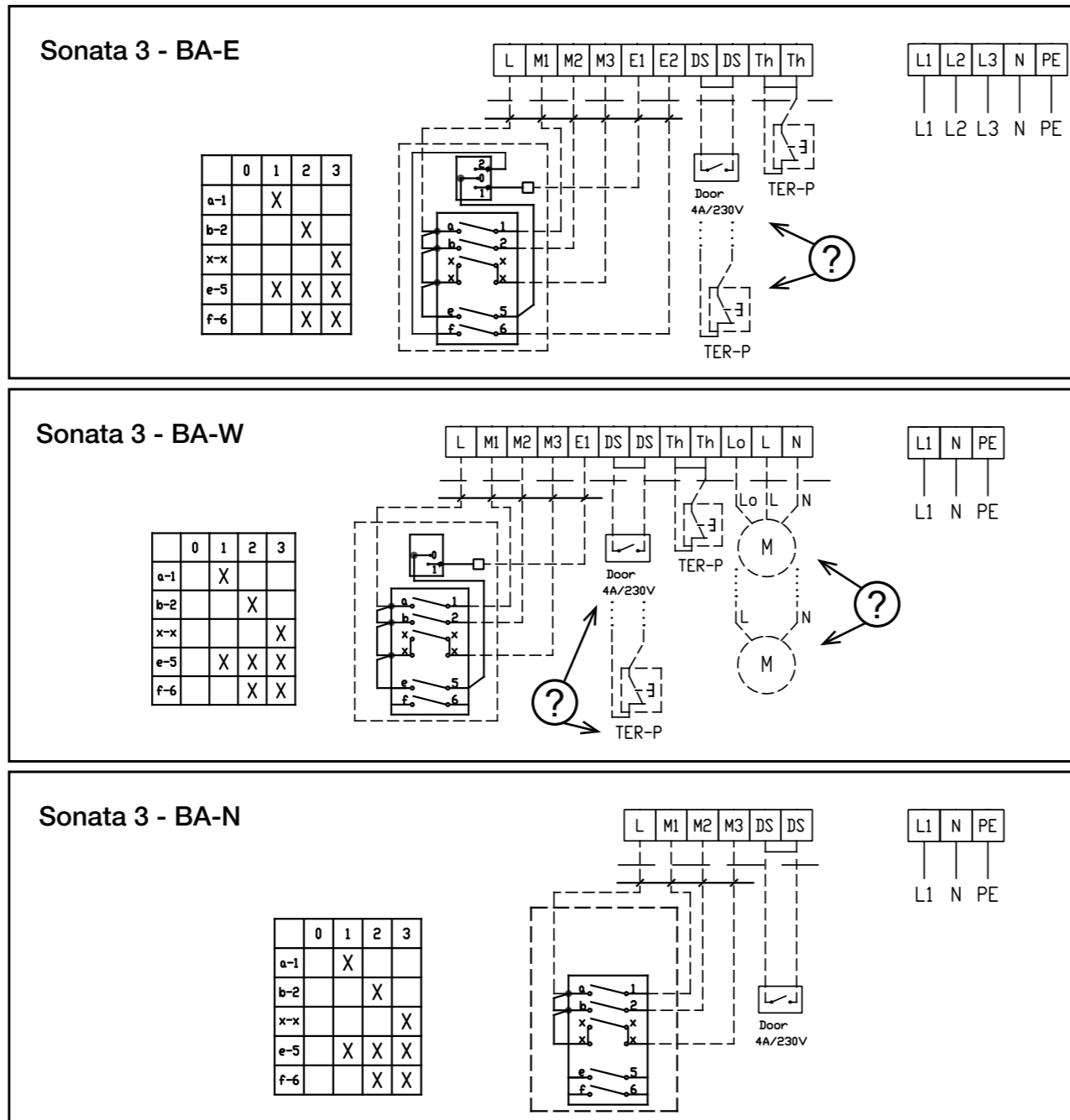
ACCESSORIES

WIRING DIAGRAMS

The recommended cross-section of the main power supply cables is stated in the Instruction Manual.
All wiring diagrams provided in the technical catalog are indicative only. When assembling the product, carefully observe the nameplate ratings as well as directions and diagrams affixed directly to the product or enclosed with the product.



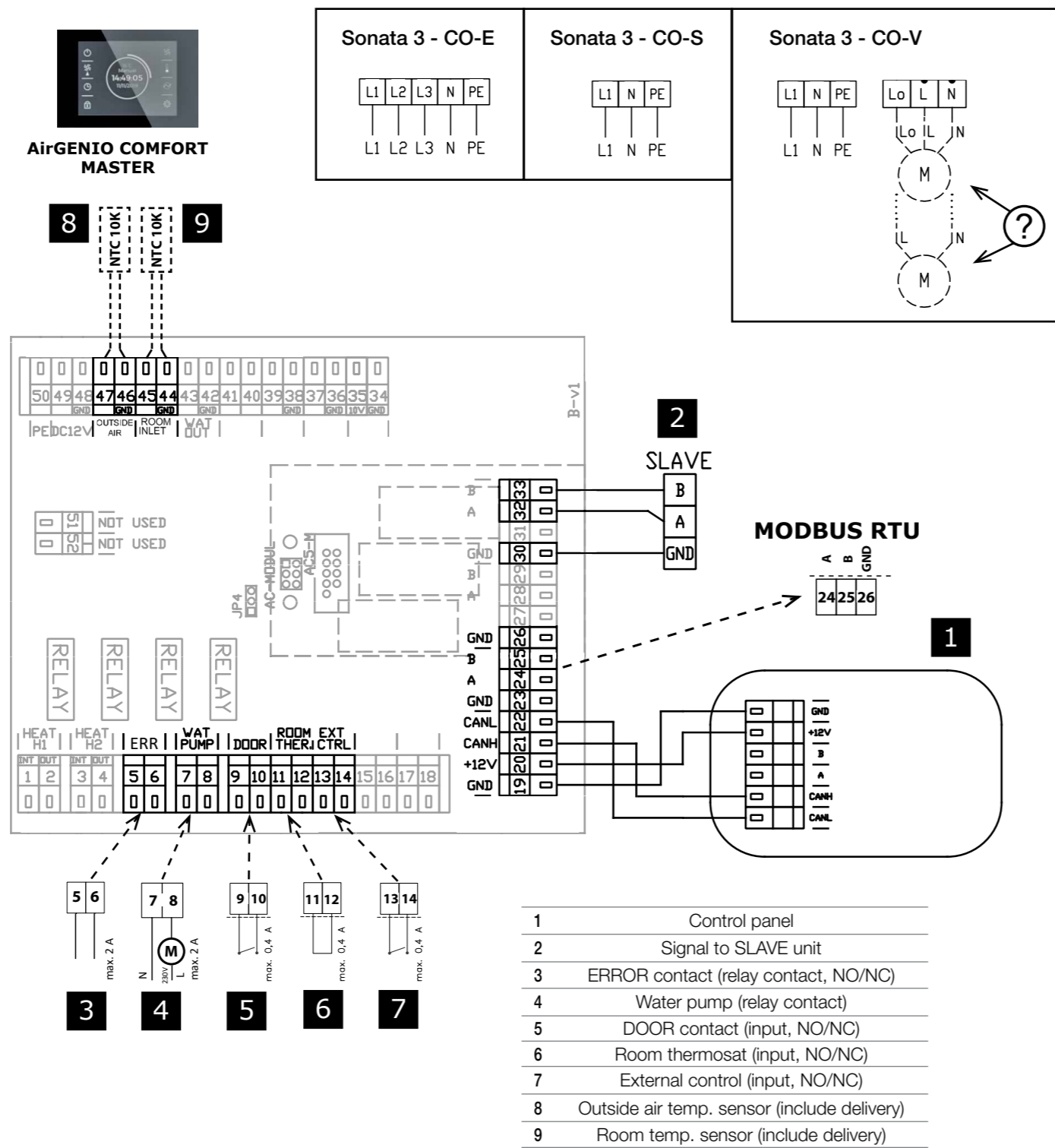
AirGENIO BASIC



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DIAGRAMS

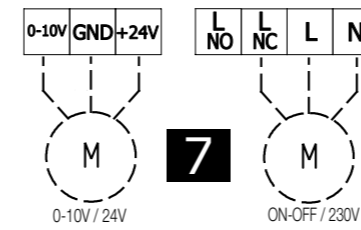
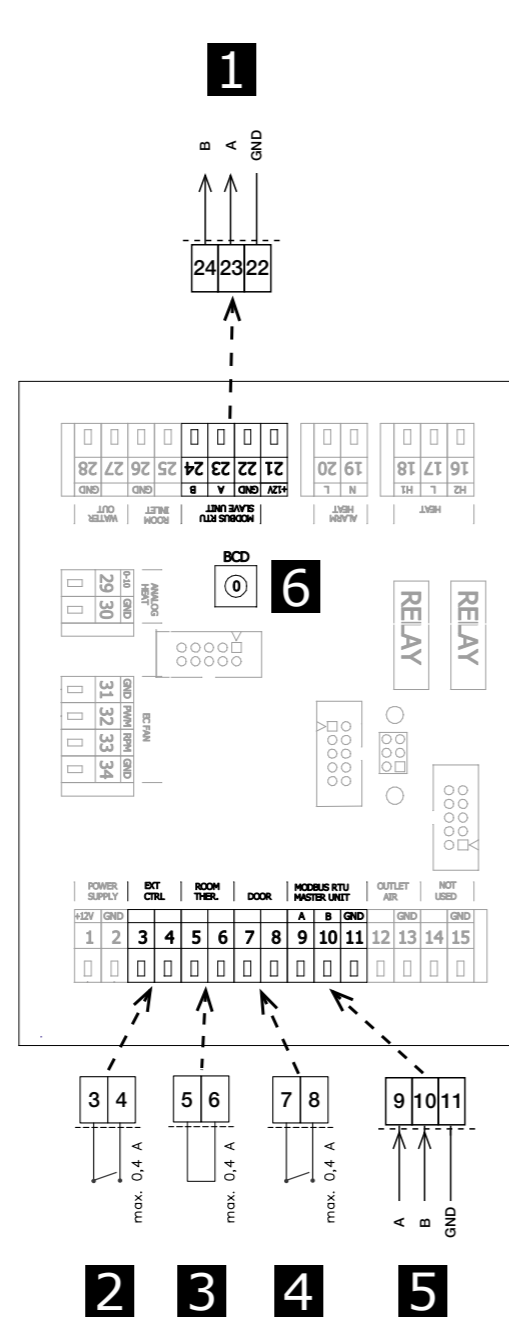
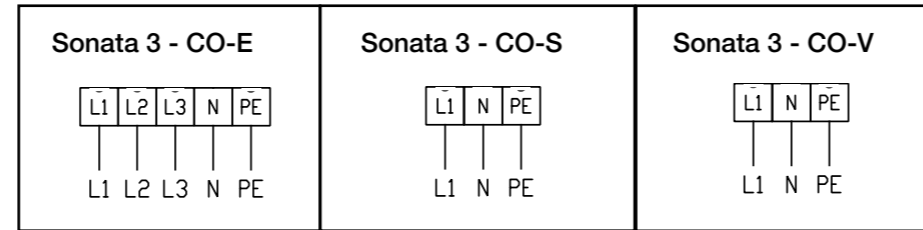
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WIRING DIAGRAMS

AirGENIO COMFORT SLAVE



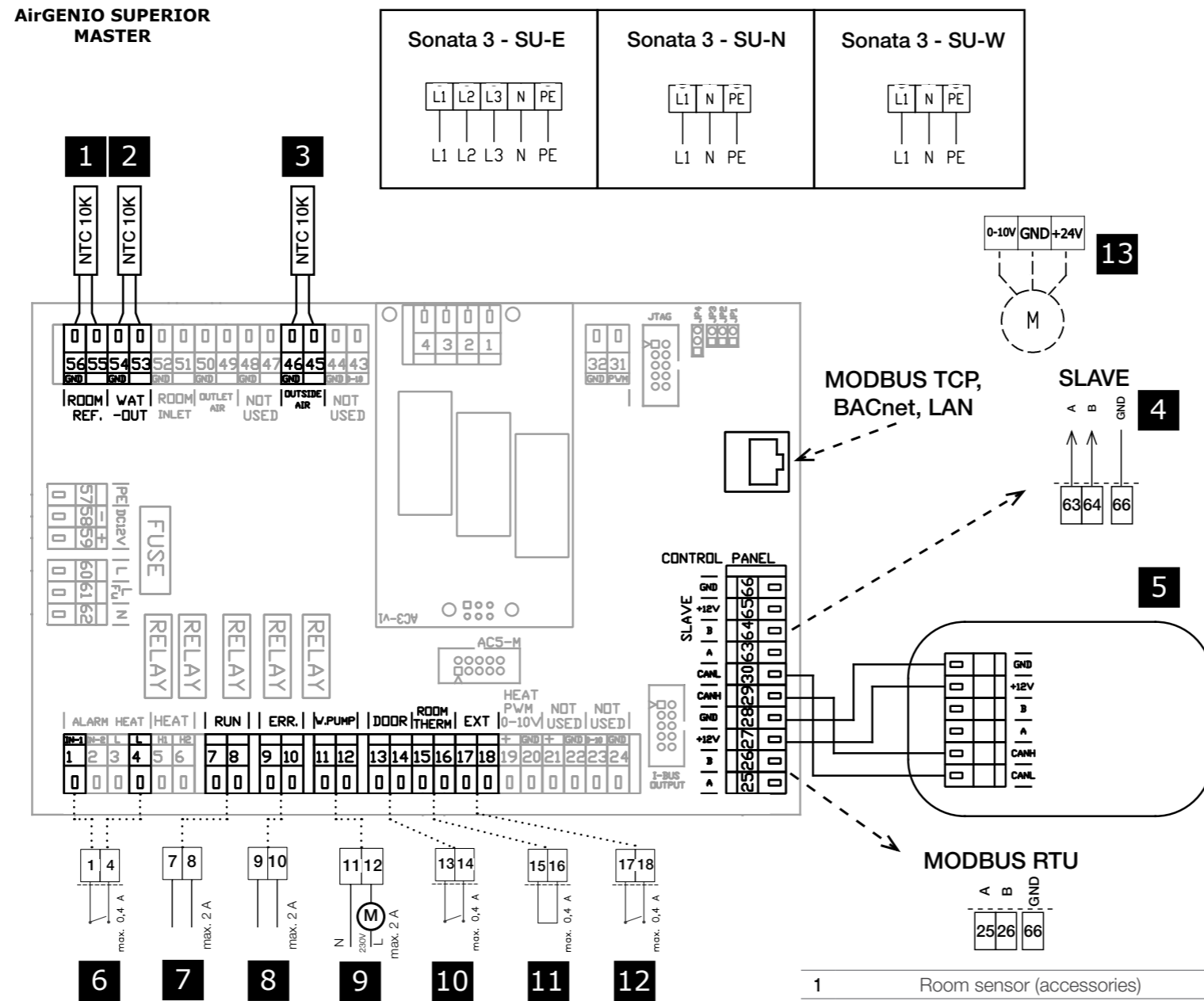
1	Signal to SLAVE unit
2	External control - ON/OFF
3	Room thermostat (input)
4	DOOR contact (input)
5	Signal from MASTER unit
6	Address of the slave air curtain
7	Water valve control connection (option 1 = ON-OFF)

6		SLAVE
1	1	
2	2	
3	3	
4	4	
5	5	
6	6	
7	7	
8	8	
9	9	
10	A	

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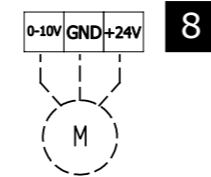
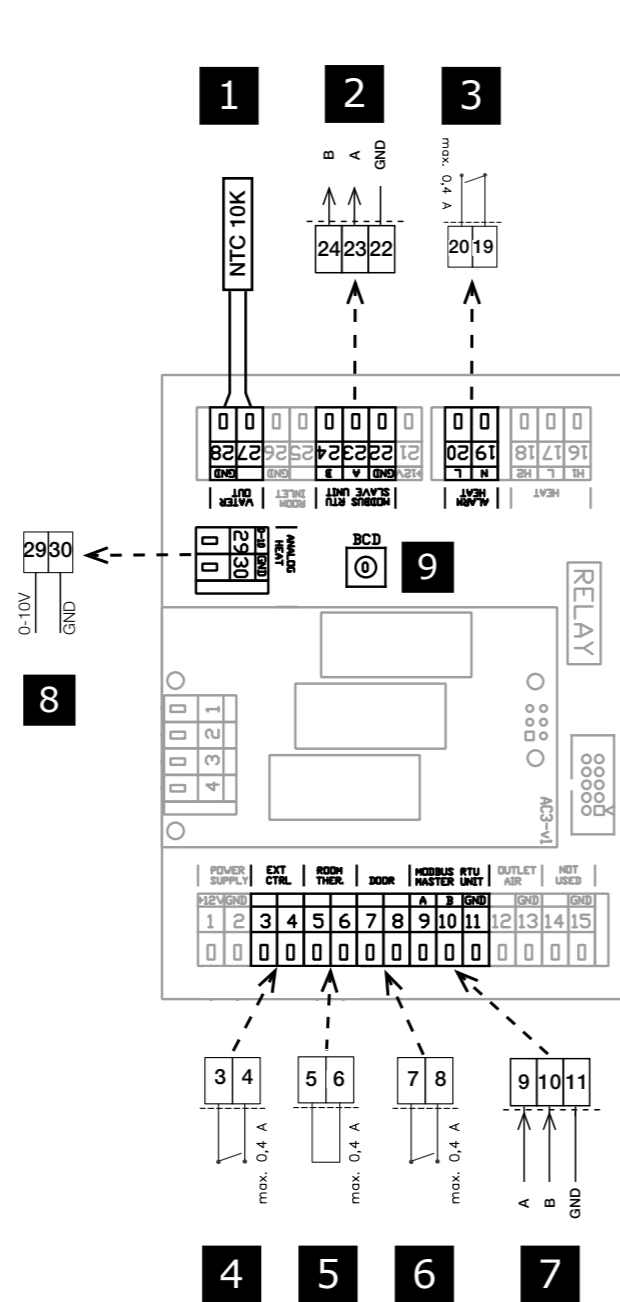
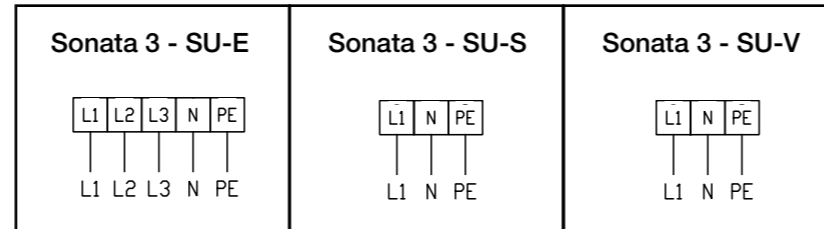


1	Room sensor (accessories)
2	LPHW out sensor (included in delivery)
3	Outside air sensor (included in delivery)
4	Signal to SLAVE unit
5	Control panel
6	Antifreeze thermostat (NC)
7	RUN contact (relay contact, NO/NC)
8	ERROR contact (relay contact, NO/NC)
9	Water pump (relay contact)
10	DOOR contact (input, NO/NC)
11	Room thermosat (input, NO/NC)
12	External control (input, NO/NC)
13	Water valve control (0-10V)

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WIRING DIAGRAMS

AirGENIO SUPERIOR MASTER



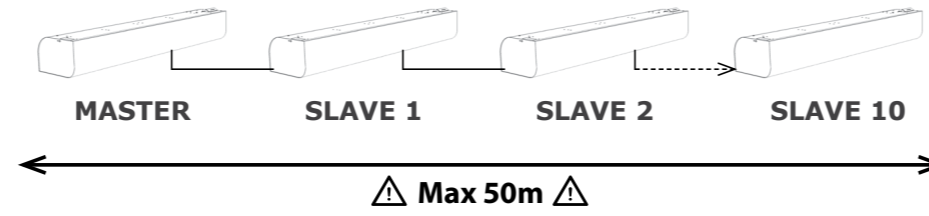
1	LPHW out sensor (included in delivery)
2	Signal to SLAVE unit
3	Antifreeze thermostat (NC)
4	External control - ON/OFF
5	Room thermostat (input)
6	DOOR contact (input)
7	Signal from MASTER unit
8	Water valve control (0-10V)

9

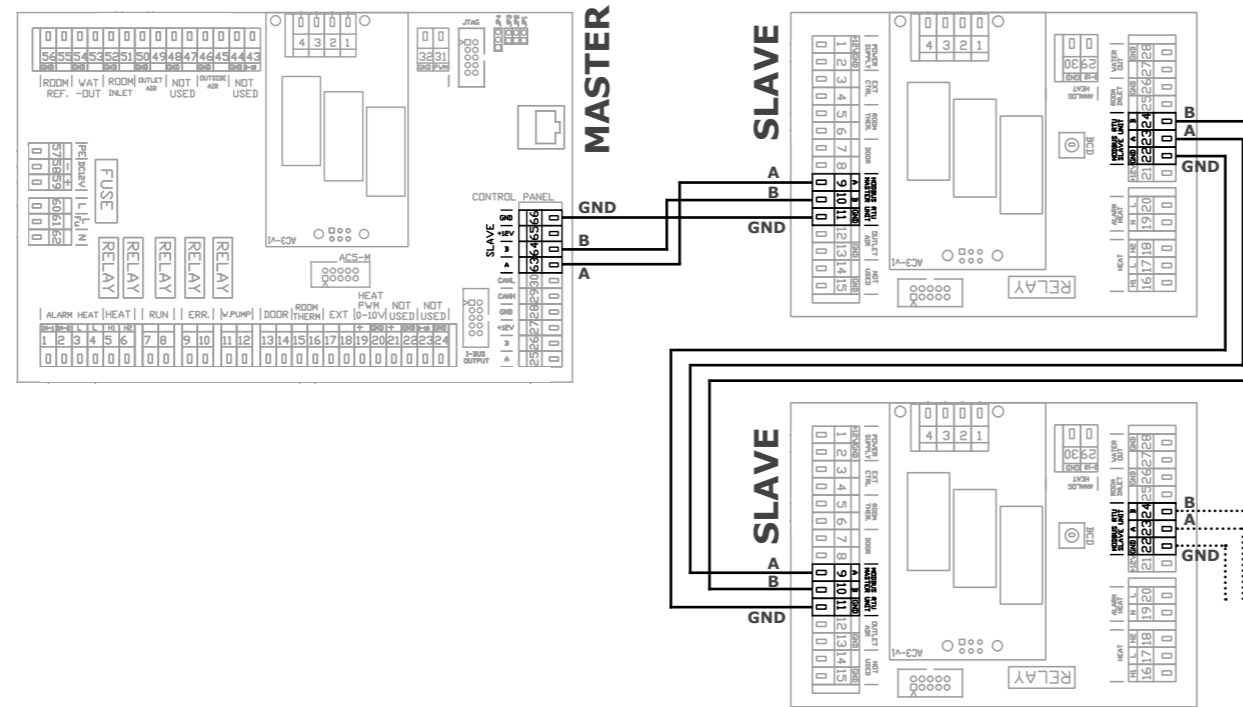
SLAVE	BCD
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	A

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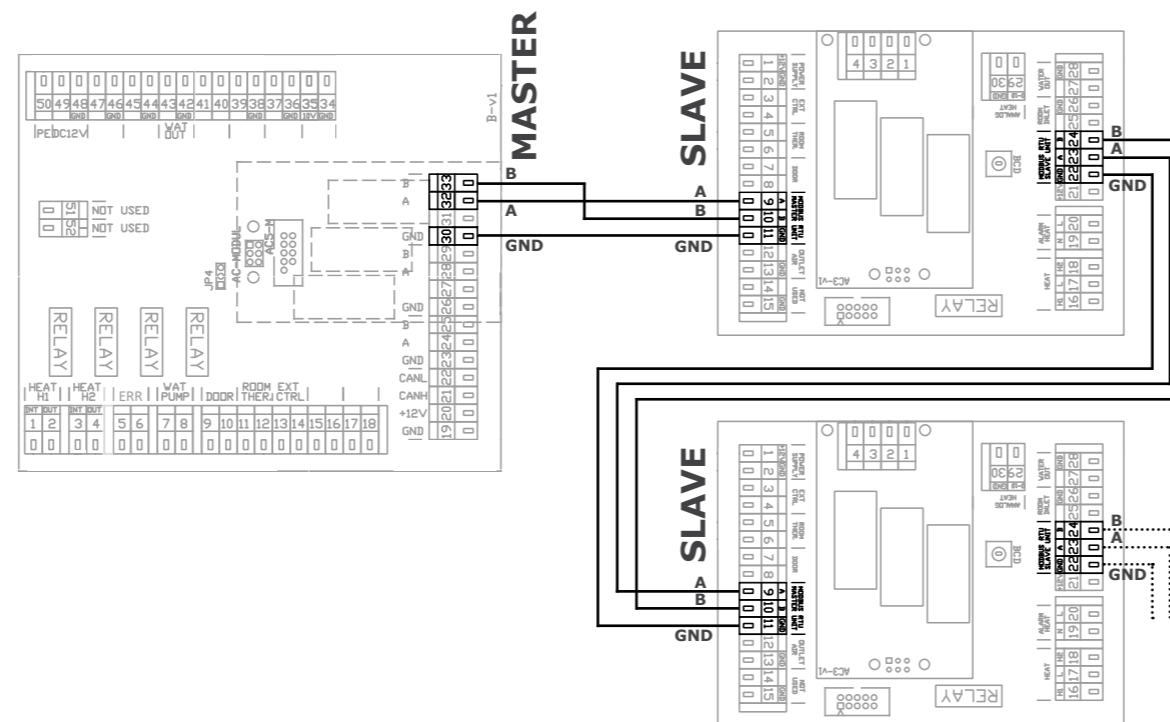
CHAINING



AirGENIO SUPERIOR



AirGENIO COMFORT



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TRANSPORT

After arrival, check the product for transport damage and shortcomings. In case of any damage or shortcomings, immediately contact your supplier.

STORAGE

If the product is not installed immediately:

- Remove any wrapping.
- Protect product from dust and contamination.
- Do not expose the curtain to the effects of weather, store the damper in a dry place.

Please properly dispose of packaging material!

MAINTENANCE AND OPERATION

Klimaoprema products are designed as such do not require cleaning and regular maintenance. However, mechanism should be systematically cleaned for proper operation.

- Provide a systematic cleaning of dust
- Cleaning instruction: clean with a sponge, with water or a mild detergent

COMMISSIONING

- Carefully unpack - be careful of sharp edges and do not use excessive force for unpacking
- Ensure that all grilles are clean and free from residues and foreign matter.
- Ensure that the devices have been correctly installed
- Before commissioning: check the product functions



AIR CURTAINS

Projektiranje, proizvodnja i održavanje opreme za klimatizaciju, ventilaciju i čiste prostore.
Design, production and service of Ventilation, Air-Conditioning and Cleanroom equipment.

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