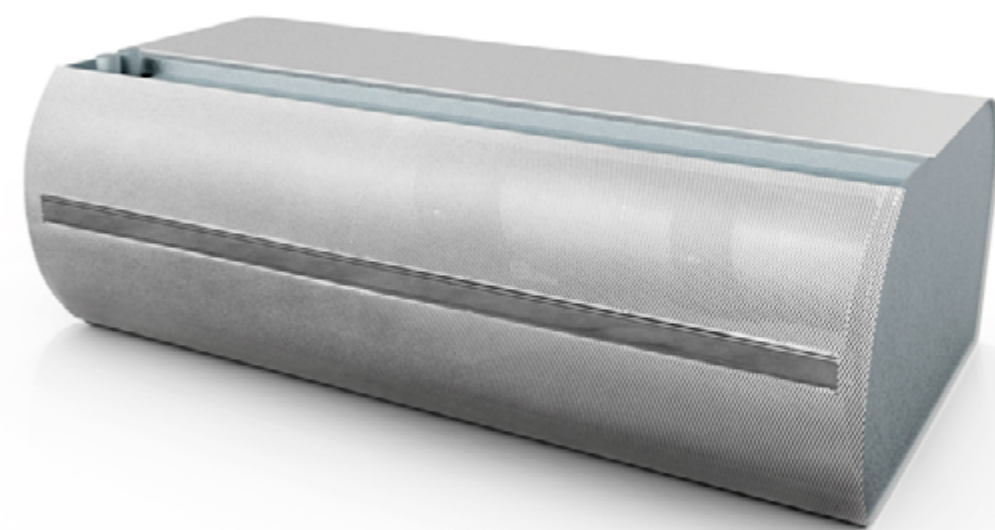


8/S4  
v 3.3 (en)

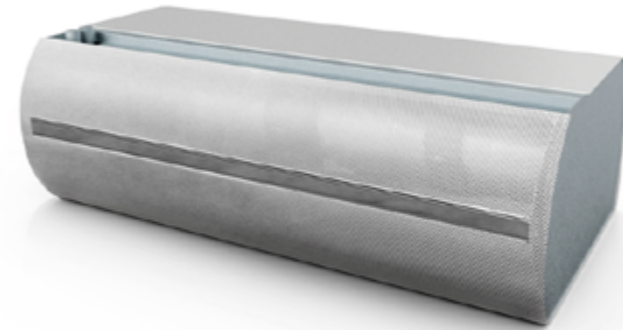
**AIR CURTAINS**

GRAND



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**GRAND**

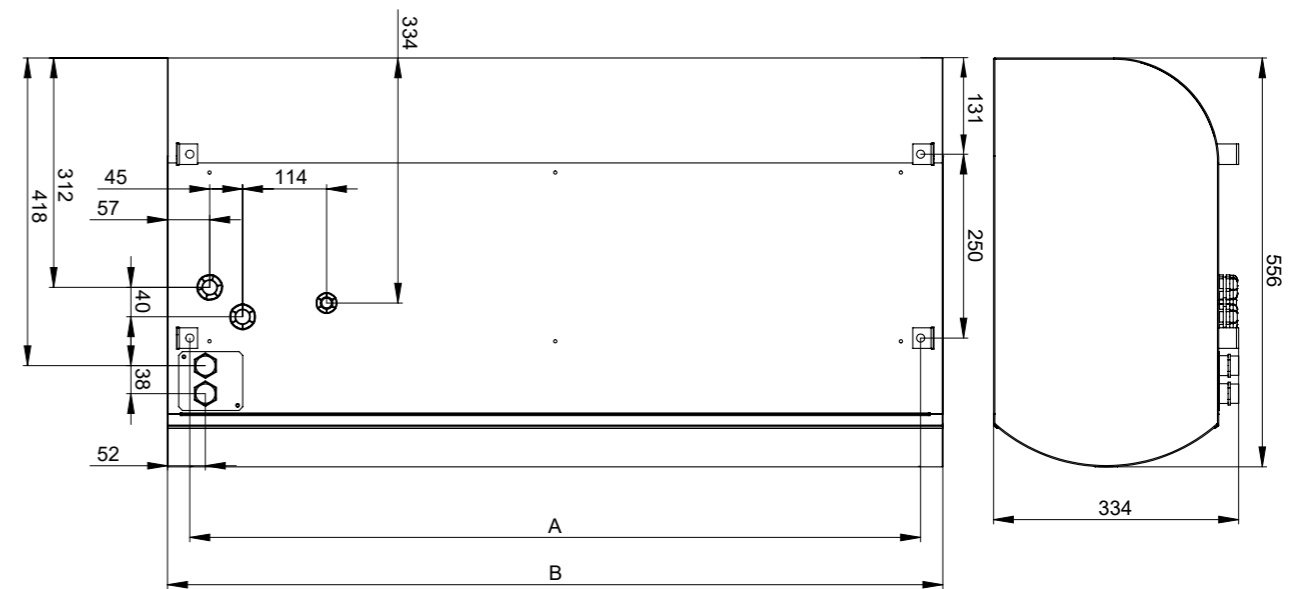
**BASIC FEATURES**

- Lengths: 1; 1.5; 2 and 2.5 m
- Air flow up to 5090 m<sup>3</sup>/h (ISO 27 327-1)
- Very low noise level
- FACE 2 in 1 – suction grille + filter = 2 in 1
- Universal interface for control module connection (BA, CO, SU)
- Easy installation and service
- Wireless control option
- Standard colour RAL 9010 (any RAL – based colours may be provided on customer’s request)
- The Grand is an extraordinary high-performance and visually attractive comfortable air curtain for use in representative premises, such as banks, luxury shops, shopping centres, airports and administrative buildings with a recommended installation height up to 5 m.
- The air curtain shall be installed indoor in a dry area with ambient temperatures ranging from 0 °C up to +35 °C and relative humidity of up to 80 %. It is designed for conveying air free of rough dust, grease, chemical fumes, and other impurities. IP rating of the air curtain is IP 20. The air curtain project shall always be developed by the HVAC designer.

**PRIMARY PARAMETERS**

- Air curtains with electric heater are fitted with automatic heat thermostat and emergency thermostat with manual reset. The warm-water exchangers are designed for the maximum operating water temperature of +100 °C and maximum operating pressure of 1.6 MPa.

**DIMENSIONS**



Type	Spacing of installation holes A [mm]	Width B [mm]
GRAND-xx-10	994	1054
GRAND-xx-15	1494	1554
GRAND-xx-20	1994	2054
GRAND-xx-25	2394	2454

Type	Recommended installation height [m]	Air output [m³/h] *1			Acoustic pressure at 3m [dB(A)]*2			Sound power [dB(A)]*3	Heater power output [kW]	Total consumption [V/A]	Motor consumption [W/A]	Weight [kg]*5
		Speed 3	Speed 2	Speed 1	Speed 3	Speed 2	Speed 1					
GRAND-40-10-N-	4,0	1626	1182	813	56,0	47,9	39,8	73,5	-	-	230/2,25	42
GRAND-40-15-N-	4,0	2513	1774	1256	58,7	50,9	43,2	76,2	-	-	230/3,50	59
GRAND-40-20-N-	4,0	3362	2328	1626	59,7	51,8	43,8	77,2	-	-	230/4,70	76
GRAND-40-25-N-	4,0	4065	2956	2106	60,8	53,4	44,8	78,3	-	-	230/5,60	93
GRAND-40-10-E10-	4,0	1589	1145	813	56,0	47,9	39,8	73,5	9,5	400/13,7	230/2,25	46
GRAND-40-15-E15-	4,0	2476	1700	1219	58,7	50,9	43,2	76,2	15	400/21,7	230/3,50	63
GRAND-40-20-E19-	4,0	3362	2291	1589	59,7	51,8	43,8	77,2	19	400/27,5	230/4,70	81
GRAND-40-25-E25-	4,0	3991	2919	2069	60,8	53,4	44,8	78,3	24,5	400/35,4	230/5,60	99
GRAND-40-10-W-	4,0	1552	1109	776	55,8	47,9	39,7	73,3	16,97*4	-	230/2,25	48
GRAND-40-15-W-	4,0	2439	1663	1182	57,6	49,4	41,6	75,1	38,47*4	-	230/3,50	65
GRAND-40-20-W-	4,0	3252	2180	1552	59,3	51,0	42,9	76,8	52,64*4	-	230/4,70	83
GRAND-40-25-W-	4,0	3880	2734	1884	60,6	52,7	45,4	78,1	65,46*4	-	230/5,60	97
GRAND-50-10-N-	5,0	2303	1656	1172	59,6	51,7	43,6	77,1	-	-	230/3,30	48
GRAND-50-15-N-	5,0	3353	2424	1737	60,0	52,1	44,2	77,5	-	-	230/4,60	64
GRAND-50-20-N-	5,0	4161	2990	2101	60,3	52,6	44,5	77,9	-	-	230/5,55	80
GRAND-50-25-N-	5,0	5090	3636	2666	61,1	53,4	45,6	78,6	-	-	230/6,90	98
GRAND-50-10-E10-	5,0	2262	1616	1131	59,6	51,7	43,6	77,1	9,5	400/13,7	230/3,30	53
GRAND-50-15-E15-	5,0	3272	2384	1697	60,0	52,1	44,2	77,5	15	400/21,7	230/4,60	68
GRAND-50-20-E19-	5,0	4080	2949	2060	60,3	52,6	44,5	77,9	19	400/27,5	230/5,55	86
GRAND-50-25-E25-	5,0	4888	3555	2586	61,1	53,4	45,6	78,6	24,5	400/35,4	230/6,90	110
GRAND-50-10-W-	5,0	2222	1576	1115	59,1	51,4	42,9	76,6	20,80*4	-	230/3,30	55
GRAND-50-15-W-	5,0	3151	2182	1616	59,7	52,2	43,9	77,2	43,87*4	-	230/4,60	70
GRAND-50-20-W-	5,0	3878	2788	1939	60,2	52,6	44,8	77,7	56,21*4	-	230/5,55	88
GRAND-50-25-W-	5,0	4808	3434	2424	60,7	53,3	45,5	78,2	72,12*4	-	230/6,90	108

\*1 Air flow volume according ISO27327-1

\*2 Acoustic pressure values at 3 and 5 m 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 regulation.

Air curtain type	Air capacity [m3/h]	Heater power [kW]*2 *3	Temperature increase* Δt [°C]
GRAND-40-10-E10-	1589	9,5	13,19
GRAND-40-15-E15-	2476	15	13,36
GRAND-40-20-E19-	3362	19	12,46
GRAND-40-25-E25-	3991	24,5	13,54
GRAND-50-10-E10-	2262	9,5	10,12
GRAND-50-15-E15-	3272	15	11,05
GRAND-50-20-E19-	4080	19	11,23
GRAND-50-25-E25-	4888	24,5	12,08

\* At the maximum air flow and maximum heater power

\*2 Air curtains with BA and CO control modules has heating steps divided 50% / 100%

\*3 Air curtains with SU control module has stepless heating

**Water exchanger parameters for water temperature gradient of 60/40 °C**

Type	Air flow [m³/h]	Heat output [kW]	Outlet temperature [°C]	Water flow [l/s]	Pressure loss [kPa]
GRAND-40-10-W-	1552	8,21	30	0,10	1,33
GRAND-40-15-W-	2439	18,72	36	0,22	2,57
GRAND-40-20-W-	3252	25,83	37	0,31	3,49
GRAND-40-25-W-	3880	32,13	37	0,38	5,47
GRAND-50-10-W-	2222	10,00	30	0,12	1,79
GRAND-50-15-W-	3151	21,23	35	0,25	2,94
GRAND-50-20-W-	3878	27,48	36	0,33	3,83
GRAND-50-25-W-	4808	35,22	37	0,42	6,34

\* Temperature of intake air: +18 °C

**Water exchanger parameters for water temperature gradient of 70/50 °C**

Type	Air flow [m³/h]	Heat output [kW]	Outlet temperature [°C]	Water flow [l/s]	Pressure loss [kPa]
GRAND-40-10-W-	1552	11,05	35	0,13	2,09
GRAND-40-15-W-	2439	25,15	43	0,30	3,54
GRAND-40-20-W-	3252	34,60	43	0,41	5,48
GRAND-40-25-W-	3880	43,03	44	0,51	8,82
GRAND-50-10-W-	2222	13,50	34	0,16	2,88
GRAND-50-15-W-	3151	28,58	42	0,34	4,08
GRAND-50-20-W-	3878	36,86	43	0,44	6,06
GRAND-50-25-W-	4808	47,25	44	0,56	10,30

\* Temperature of intake air: +18 °C

**Water exchanger parameters for water temperature gradient of 80/60 °C**

Type	Air flow [m³/h]	Heat output [kW]	Outlet temperature [°C]	Water flow [l/s]	Pressure loss [kPa]
GRAND-40-10-W-	1552	13,97	40	0,17	3,04
GRAND-40-15-W-	2439	31,72	49	0,38	4,58
GRAND-40-20-W-	3252	43,52	50	0,52	7,93
GRAND-40-25-W-	3880	54,13	52	0,64	12,96
GRAND-50-10-W-	2222	17,09	38	0,20	4,24
GRAND-50-15-W-	3151	36,12	48	0,43	5,31
GRAND-50-20-W-	3878	46,42	49	0,55	8,82
GRAND-50-25-W-	4808	59,54	51	0,71	15,26

\* Temperature of intake air: +18 °C

**Water exchanger parameters for water temperature gradient of 90/70 °C**

Type	Air flow [m³/h]	Heat output [kW]	Outlet temperature [°C]	Water flow [l/s]	Pressure loss [kPa]
GRAND-40-10-W-	1552	16,97	45	0,20	4,19
GRAND-40-15-W-	2439	38,47	56	0,46	5,72
GRAND-40-20-W-	3252	52,64	57	0,63	10,90
GRAND-40-25-W-	3880	65,46	59	0,78	17,98
GRAND-50-10-W-	2222	20,80	43	0,25	5,92
GRAND-50-15-W-	3151	43,87	55	0,52	6,66
GRAND-50-20-W-	3878	56,21	57	0,67	12,19
GRAND-50-25-W-	4808	72,12	58	0,86	21,29

\* Temperature of intake air: +18 °C

**CONTROL**

- The Grand air curtains are produced with universal interface for control module connection. There are three types of control modules available (BA, CO and SU). Control module is an required accessory for each air curtain.
- Additional change of control system is available. Control module is connected with air curtain by quick connection sockets. The basic differences among individual control module types are given in table underneath.



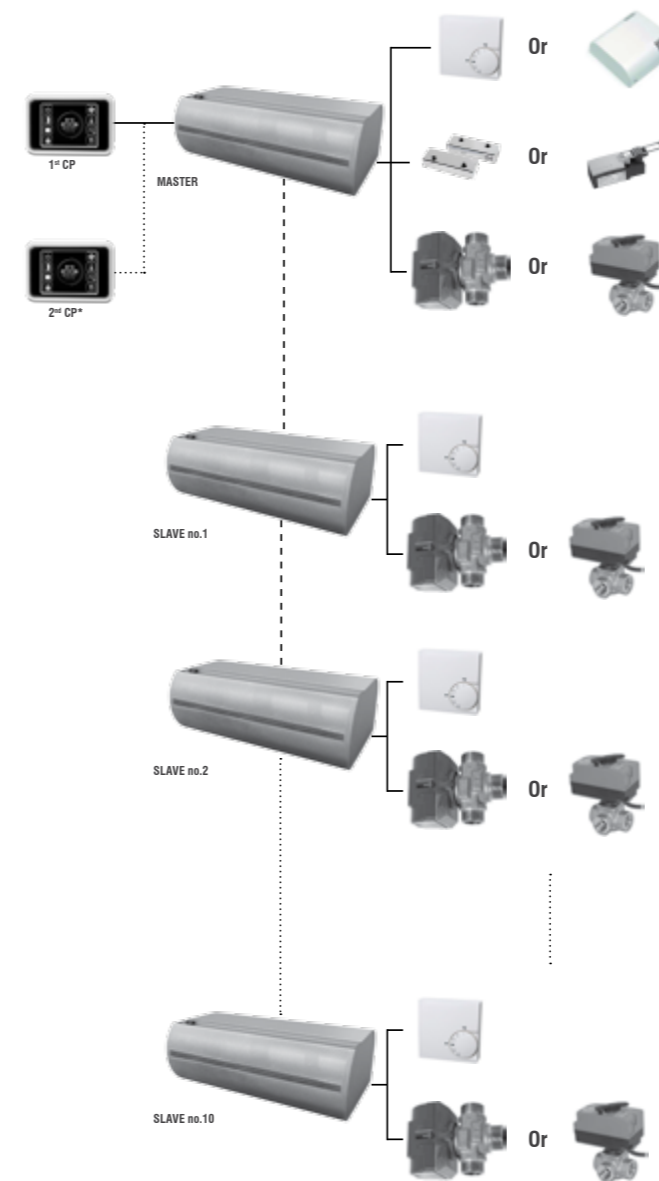
	BASIC SONATA EVO-BA	COMFORT SONATA EVO-CO	SUPERIOR SONATA EVO-SU
Type of controller / Mode	Manual / Manual	Touch screen / Manual or Auto*	Touch screen / Manual or Auto
Regulation of air output	3 speeds	3 speeds	3 speeds (AC) 10 speeds (EC)
Regulation of electric heater	OFF / Level1 / Level2	OFF / Level1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

\*) Auto mode only ON/OFF with connected Room thermostat  
 \*\*) Temperature sensor included in standard. Temperature shown on display

**CHAINING EXAMPLE**

**COMFORT / SUPERIOR**

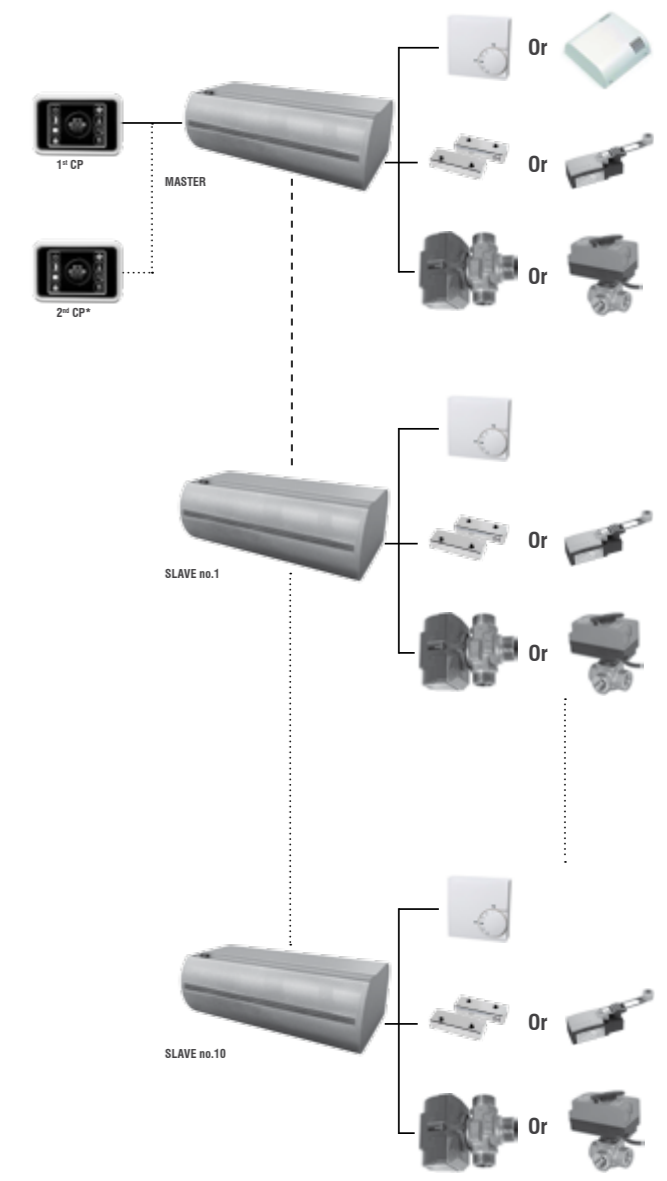
- Global Door contact function active



\*) Optional accessories

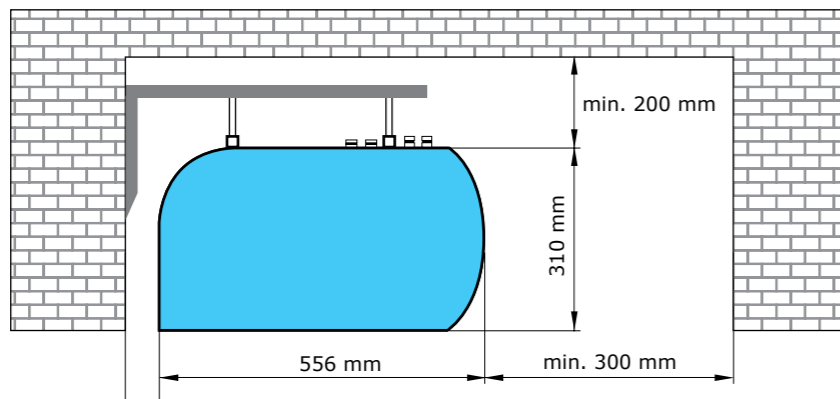
**COMFORT / SUPERIOR**

- Global Door contact function not active



**INSTALLATION AND ASSEMBLY**

- The air curtain shall be installed in a horizontal position only.
- The air curtain shall be located as close to the top edge of the doorway as possible, see figure.
- To ensure a correct 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.
- Position of the heating water and power supply connections shall be taken into consideration during installation.
- Suspension holders are used for installing the air curtains see ACCESSORIES.



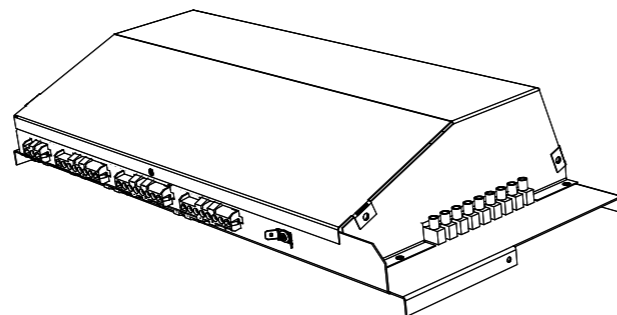
**ACCESSORIES**

**REQUIRED ACCESSORIES**

These accessories are required to make the curtain functional.

**Control module**

- A control module is an required accessorie for air curtain and shall be ordered for each air curtain. Control panel is included in delivery of control module. The ordering key for control modules is provided below.
- Communication cable has to be ordered separately as an optional accessorie.



**ORDERING KEY**

Air curtain	<b>GRAND</b>	- <b>SU</b>	- <b>E</b>	- <b>MA</b>	- <b>AC</b>
<b>BA</b> – Basic control (mechanical)					
<b>CO</b> – Comfort control (touch screen)					
<b>SU</b> – Superior control (touch screen)					
<b>N</b> – without heating regulation					
<b>E</b> – with electric heater regulation					
<b>W</b> – with water heater regulation					
<b>SL</b> – SLAVE (only for CO, SU)					
<b>MA</b> – MASTER (only for CO, SU)					
<b>AC</b> – AC motor					

**OTHER ACCESSORIES**



Thermostatic valve TV-1-1/1  
TV-1-1/1



Zone valve with servo drive ZV-3  
ZV-3 (for control BA, CO)



Water valve  
RT-3-11 (KVS 11)  
RT-3-15 (KVS 15)  
(for control BA, CO)



Water valve (0-10V)  
ZV-3-24V-XX  
(for control SU)



Mixing node  
SMU2-230-xx (for control BA, CO)  
SMU2-024-xx (for control SU)



Mechanical door switch (230V)  
DS



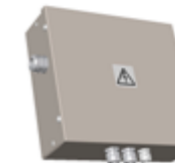
Magnetic door contact (12V)  
DK-1



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



Timer with a weekly program  
SH-TM-848



OpenEnd module (Control module for BMS)  
OE-M-AC3 (for control BA)



Room thermostat  
TER-P



Room thermostat  
TER-P

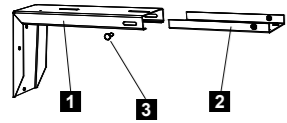


Room temperature sensor  
CT-ROOM (for control SU)

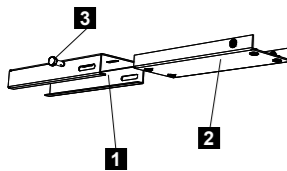
	BASIC SONATA EVO-BA	COMFORT SONATA EVO-CO	SUPERIOR SONATA EVO-SU
DS	●	●	●
DK-1	●	●	●
DK-B-3	●	●	●

\* Recommended for industry use

OTHER ACCESSORIES



**Wall mounting bracket**  
Bracket designed for mounting the air curtain to the wall.  
1 Bracket  
2 Hanging strip  
3 Securing screw  
**GRAND-KONZ-STE**  
– for B and C air curtains (2 pcs. in package)  
– wall mounting bracket



**Ceiling holder**  
The holder is designed for attaching the air curtain to a ceiling.  
1 Ceiling bracket  
2 Hanging strip  
3 Securing screw  
**GRAND-KONZ-STR**  
– for B and C air curtains (2 pcs. in package)  
– ceiling holder



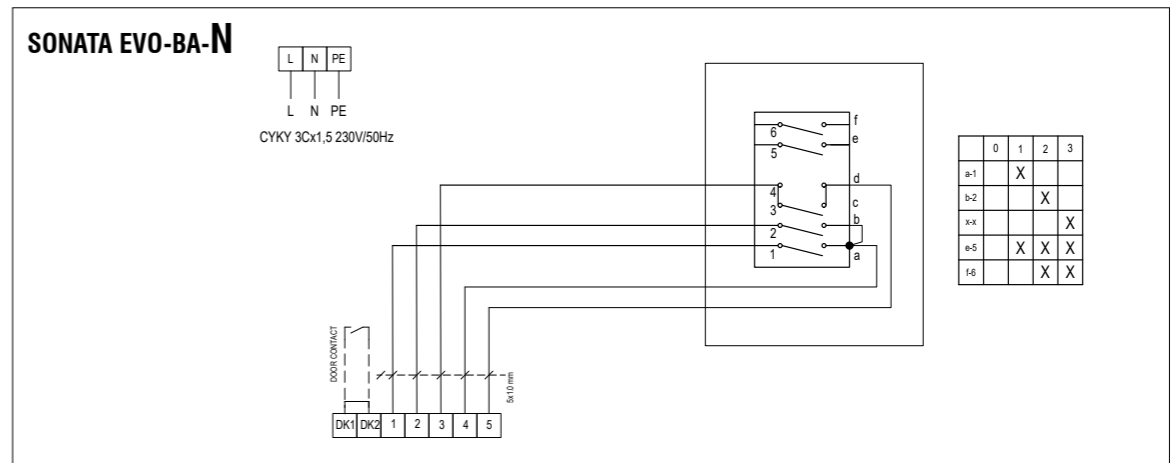
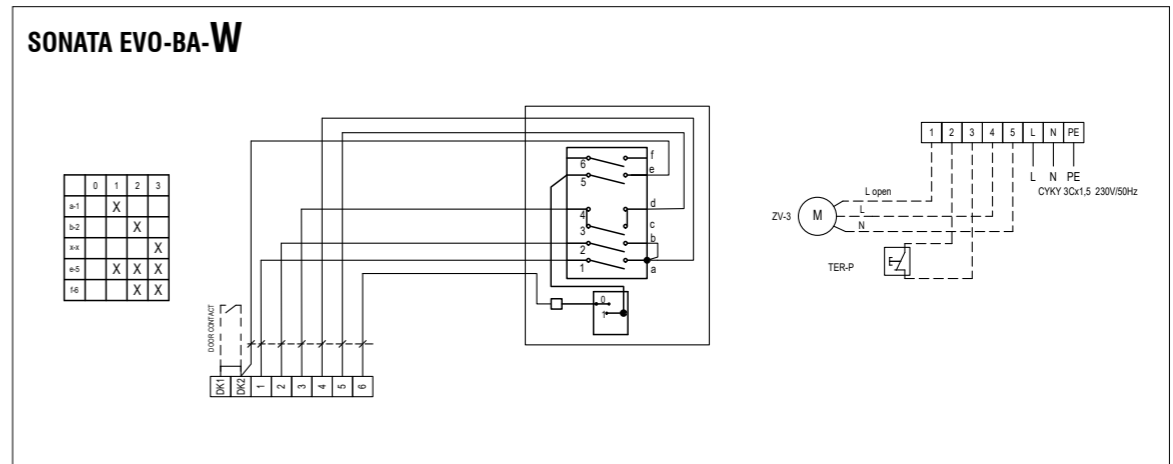
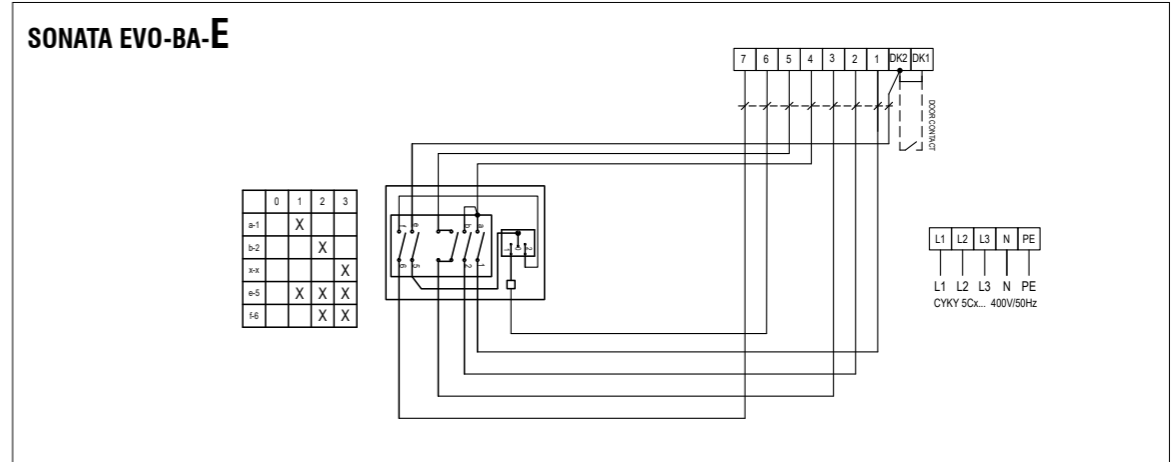
**Exit sign for marking of emergency exits.**  
Suitable for all types of air curtains.  
**GRAND-EXIT**

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.



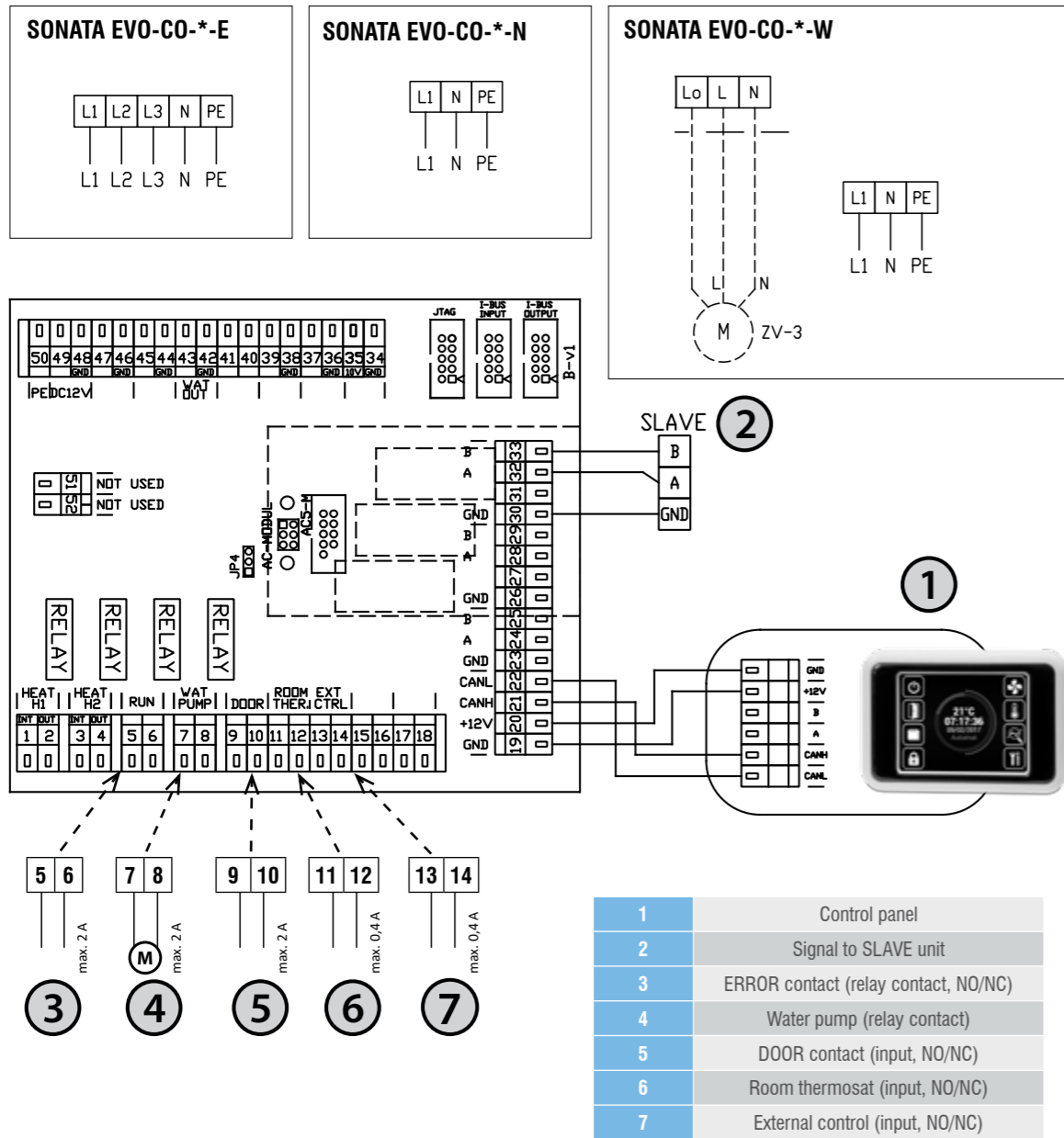
BASIC



WIRING DIAGRAMS



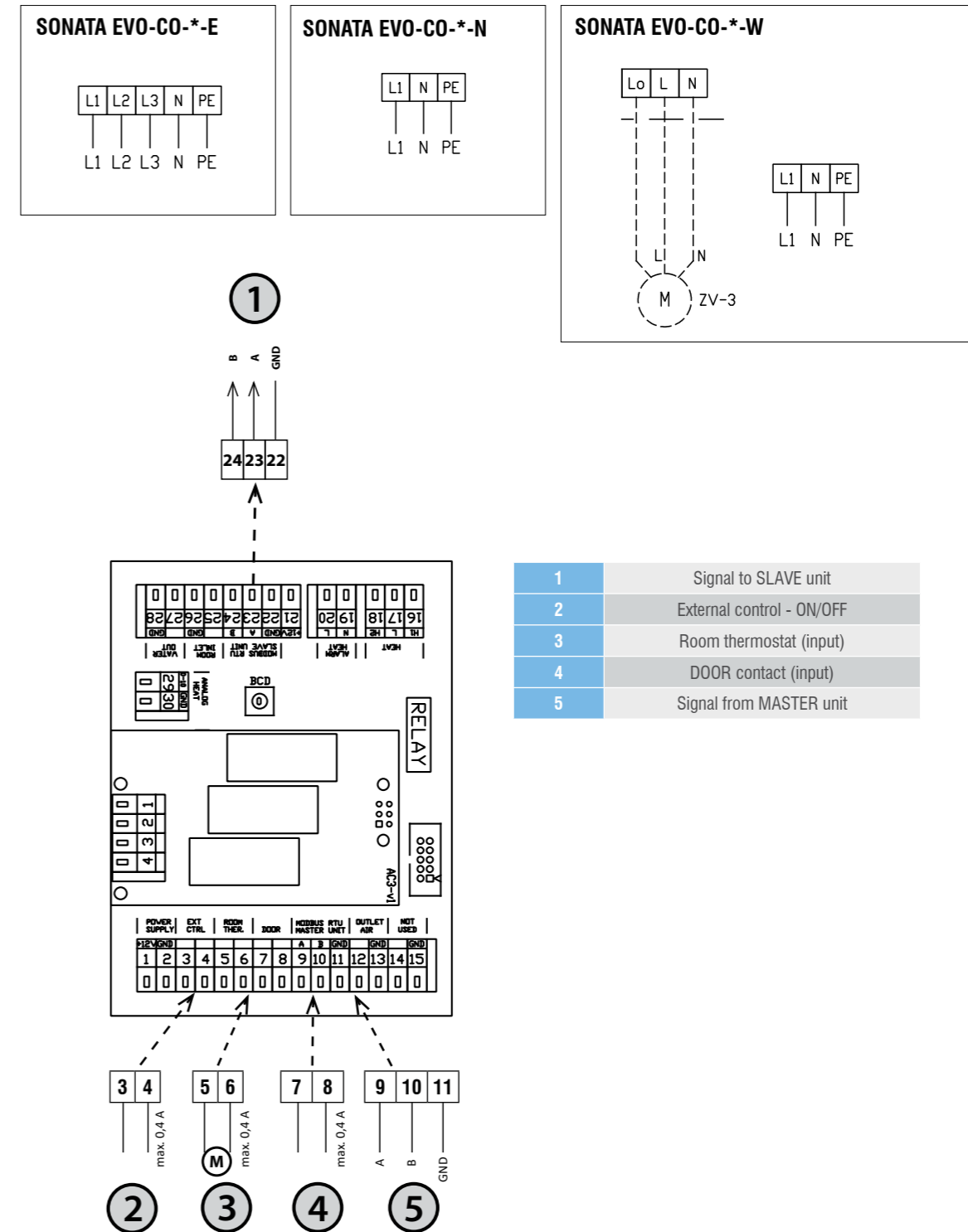
COMFORT MASTER



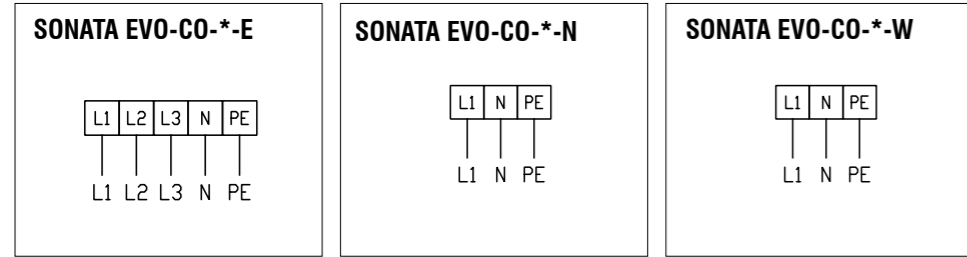
WIRING DIAGRAMS



COMFORT SLAVE

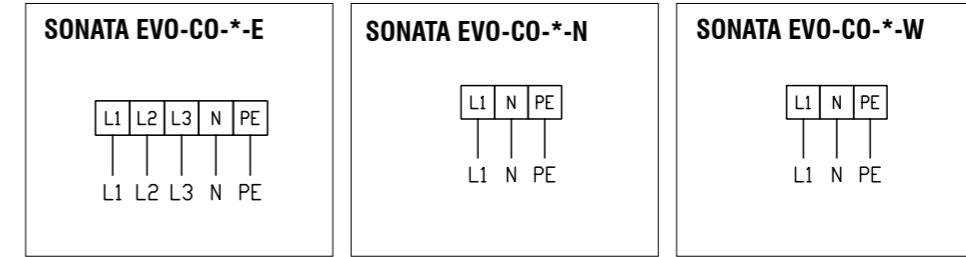


WIRING DIAGRAMS

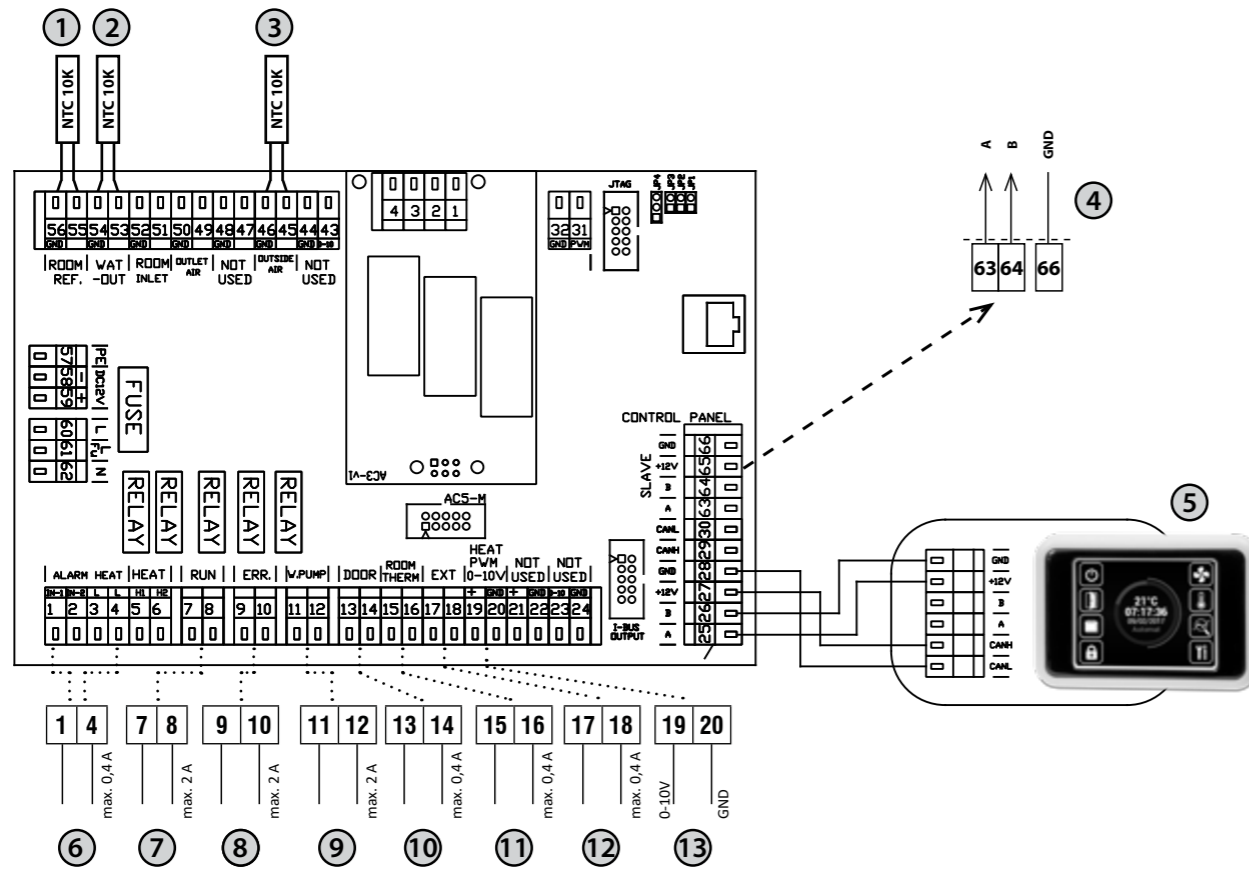


SUPERIOR MASTER

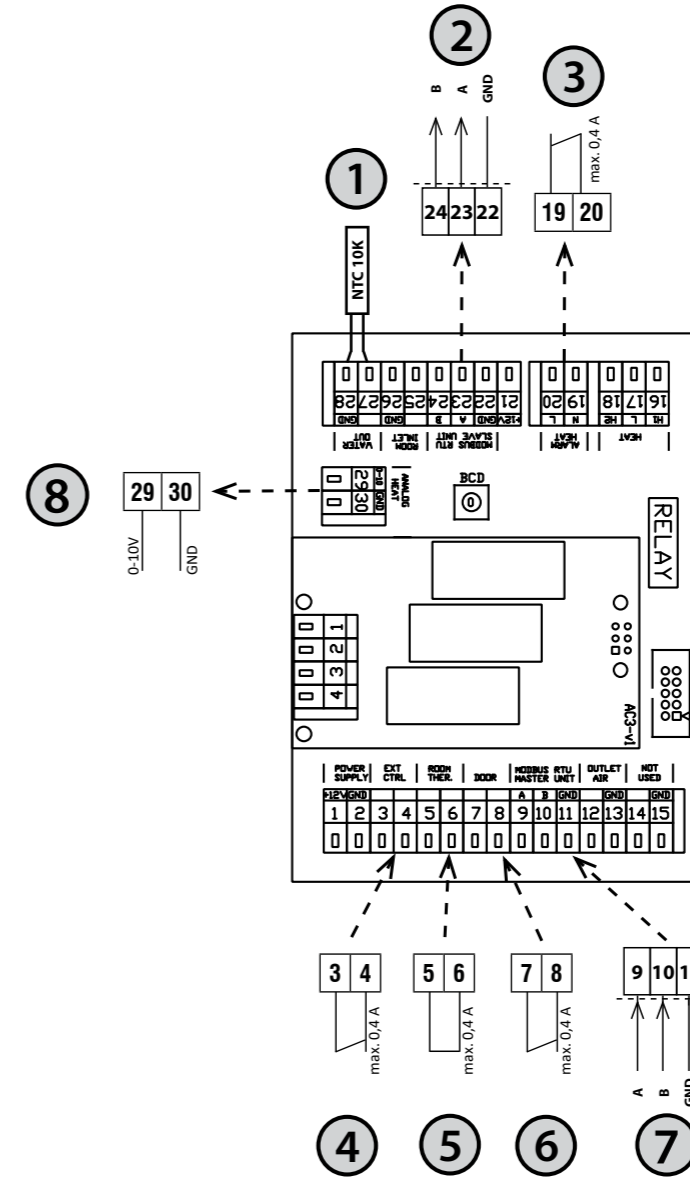
WIRING DIAGRAMS



SUPERIOR SLAVE



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 thermostat (input, NO/NC)
12	External control (input, NO/NC)
13	Water valve control (0-10V)

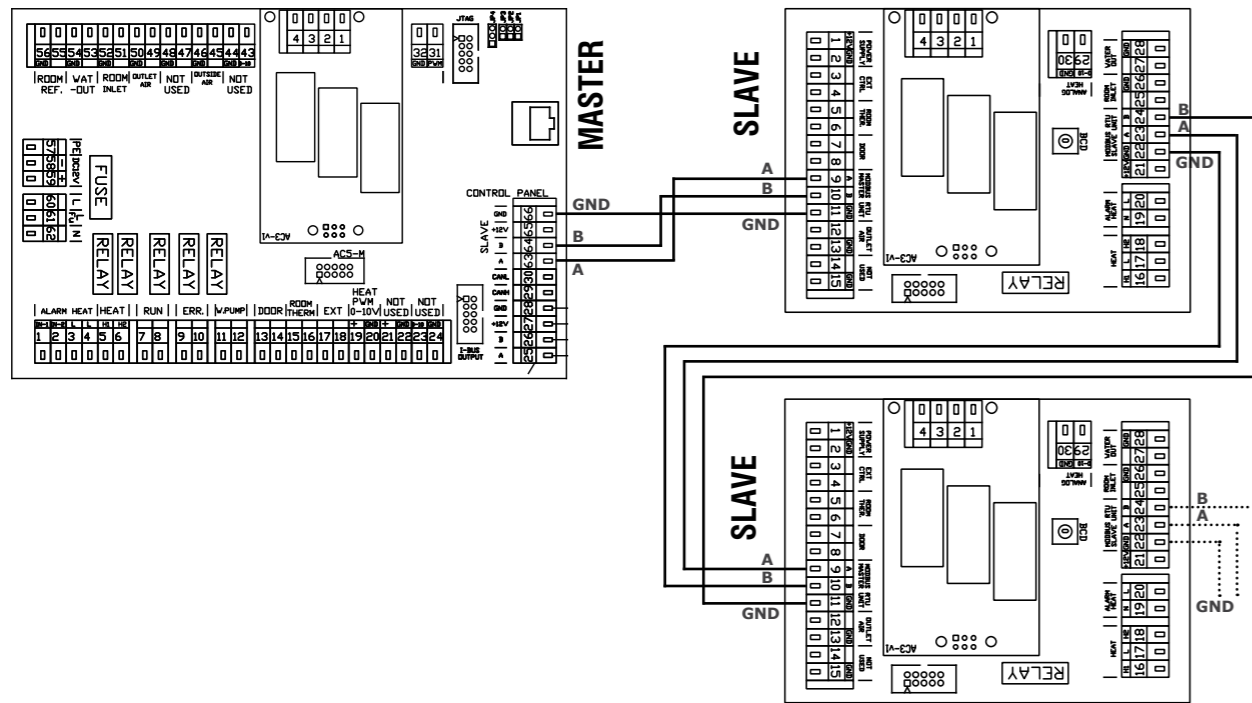


1	LPHW out sensor (included in delivery)
2	Signal to SLAVE unit
3	Antifreeze thermostat (NC)
4	External control - ON/OFF
5	Room thermostat (input)
6	DOOR contact (input)
7	Signal from MASTER unit
8	Water valve control (0-10V)



WIRING DIAGRAMS

SUPERIOR



ORDERING KEY

- Air curtain **GRAND** - 40 - 10 - W
- 40 – B Output series
- 50 – C Output series
- 10 – Nominal width 1000 mm
- 15 – Nominal width 1500 mm
- 20 – Nominal width 2000 mm
- 25 – Nominal width 2500 mm
- N – Air-only
- E – Electrical heater
- W – Water heater

COMFORT

