SVA-C Serrande circolari per VAV

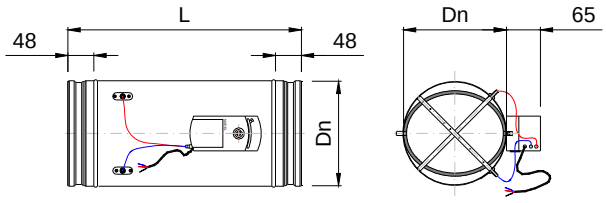
MADEL®

Regolatori di portata per canali circolari adatti ad impianti con volume d'aria variabile (VAV). Le serrande **SVA-C** consentono di regolare la portata dell'aria di una derivazione o di un locale più grande in funzione di un segnale da 0-10 V erogato da un regolatore di temperatura. Il segnale di comando trasmesso dal regolatore del locale posiziona l'attuatore in modo da adattare la portata alla richiesta dell'ambiente.

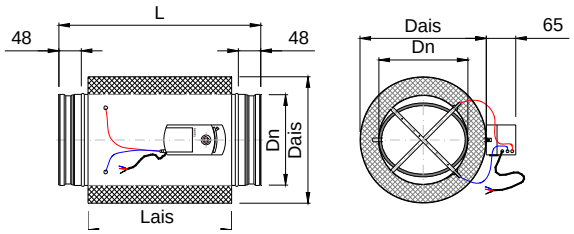
Una guarnizione perimetrale lungo l'aletta del regolatore garantisce l'ermeticità totale al passaggio dell'aria se il segnale comanda di chiudere completamente la serranda.

Il controller a distanza permette di modificare a posteriori le portate V min e V max.

SVA-C



SVA-C/AIS/



D	Dn	Dais	L	L ais
100	98	178	350	235
125	123	203	350	235
160	158	238	400	286
200	198	278	400	286
250	248	328	450	335
315	313	393	500	385
355	353	433	550	435
400	398	478	600	485

RDG

CR24

CLASSIFICAZIONE

SVA-C Serranda circolare di regolazione VAV. Tarata in fabbrica in base alle specifiche del cliente. Connessione a canale secondo norma EN-1506. Cassa a tenuta con guarnizione in gomma sulla lama in conformità norma EN-1751.

100 < D(Ø) <125 EN-1751 Cassa Classe C, Lama 3
150 < D(Ø) <400 EN-1751 Cassa Classe C, Lama 4

.../M/ Modalità di lavoro del regolatore tipo Master.
.../S/ Modalità di lavoro del regolatore tipo Slave.
.../CON 0-10/ Comando proporzionale 0-10 V.
.../CON 3P/ Comando a 3 punti.
…/AIS/ Isolamento termoacustico.

MATERIALE

Serrande costruite in acciaio zincato, misuratore della pressione differenziale in alluminio, raccordi in ABS e tubi di misura dell'attuatore in silicone rosso/blu. Guarnizione di tenuta dell'aletta in EPDM

ACCESSORI

RDG 400 Controller di temperatura ambiente proporzionale 0…10 Vcc aliment. 24 Vac SIEMENS con display digitale retroilluminato, selettore comfort/eco/stop, attuatori saracinesca proporzionali e controller compatti per scatole VAV.
CR24-A1 Controller di temperatura ambiente proporzionale 0…10 Vcc aliment. 24 Vac BELIMO.
RDG 400KN Simile a RDG 400 con comunicazione KNX standard da integrare in BMS. Richiede attuatore GDB / GLB 181.1E / KN.
CR24-B1 Controller di temperatura ambiente proporzionale BELIMO, con uscita analogica 0-10 Vdc, per controllo volume VAV.

SISTEMA DI FISSAGGIO

1)Montaggio diretto sul canale circolare.

SPECIFICHE PER CAPITOLATO

Fornitura e montaggio di serranda circolare per VAV con misuratore di pressione differenziale, per la regolazione della portata d'aria **serie SVA-C/M/CON 0-10/ Dia. (mm) V min V max,** modalità di lavoro del regolatore tipo Master **/M/** e controllo proporzionale 0-10 V **/CON 0-10/**. Realizzata in acciaio zincato, misuratore in alluminio, raccordi in ABS, tubi di misura in silicone e guarnizione di tenuta dell'aletta in EPDM. Marca **MADEL.**

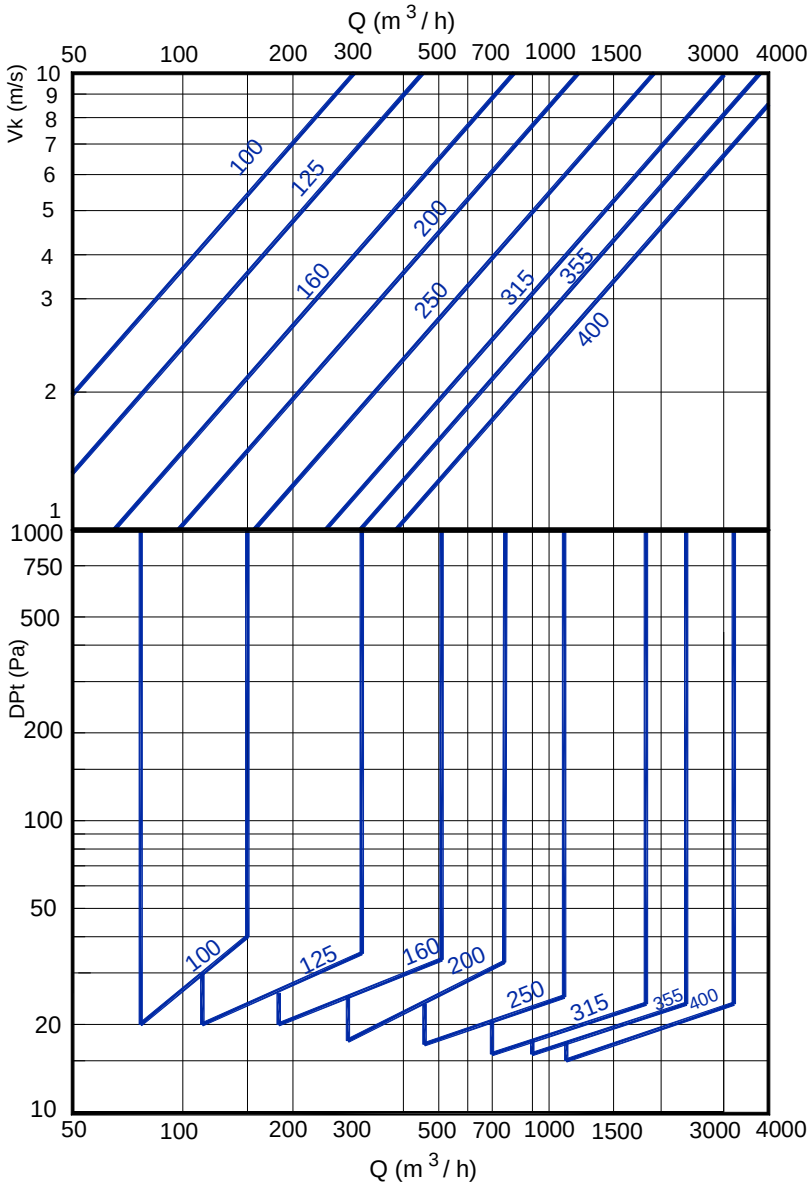
PORTATE RACCOMANDATE

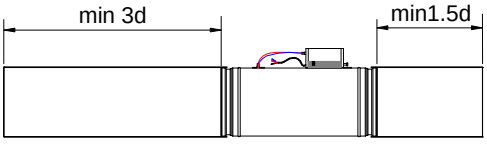
Ø	Q (m3/h)		dPmin (Pa)
100	Qmin	60	20 < P < 1000
	Qmax	212	40 < P < 1000
125	Qmin	116	20 < P < 1000
	Qmax	331	35 < P < 1000
160	Qmin	197	20 < P < 1000
	Qmax	543	35 < P < 1000
200	Qmin	290	18 < P < 1000
	Qmax	848	32 < P < 1000
250	Qmin	520	17 < P < 1000
	Qmax	1325	25 < P < 1000
315	Qmin	745	15 < P < 1000
	Qmax	2104	22 < P < 1000
355	Qmin	950	15 < P < 1000
	Qmax	2672	22 < P < 1000
400	Qmin	1050	15 < P < 1000
	Qmax	3393	22 < P < 1000

POTENZA SONORA.

Ø	Q	L wa1		
		100 Pa	250 Pa	500 Pa
100	71	38	46	54
	120	46	53	59
	198	50	57	62
125	110	40	54	59
	170	46	56	61
	309	51	58	63
160	181	41	52	57
	300	47	55	62
	507	50	58	63
200	283	41	53	59
	450	46	57	62
	792	49	59	64
250	442	41	54	57
	700	47	58	63
	1237	51	60	65
315	701	42	55	60
	1150	47	58	62
	1964	50	59	63
335	891	43	54	60
	1400	48	58	63
	2494	52	59	64
400	1131	45	54	59
	1750	50	58	63
	3167	53	60	65

VELOCITA LIBERA, PERDITA DI CARICO





CRITERI PER IMPOSTARE Vmin e Vmax

Le serrande **SVA-C** regolano l'erogazione della portata dell'aria fondamentalmente per ottenere due scopi: mantenere la temperatura impostata e ottenere una buona qualità dell'aria interna.

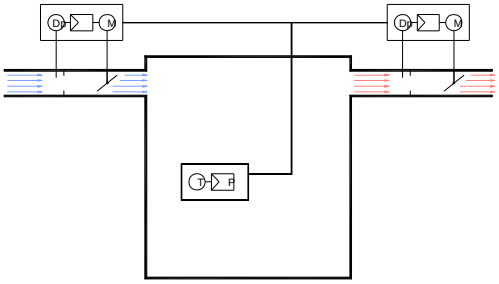
Vmin - il criterio più comune per impostare la portata minima è la qualità dell'aria richiesta nella zona da controllare.

Vmax - il criterio più comune per impostare la portata massima d'aria è la potenza termica massima da guadagnare, che generalmente è quella di raffreddamento.

CONNESSIONI DELLE SERRANDE

Vi sono tre basilari di connessione per effettuare il controllo: controllo sulla mandata e sulla ripresa con connessione parallela, controllo sulla mandata e sulla ripresa con connessione Master-Slave e controllo solo sulla mandata. Il controllo sulla mandata e sulla ripresa consente di mantenere la stessa portata di mandata e di ripresa o di mantenere una determinata pressione o sovrapressione nella zona.

Supply and Exhaust control:
PARALLEL CONNECTION



CONNESSIONE mandata e ripresa in PARALLELO

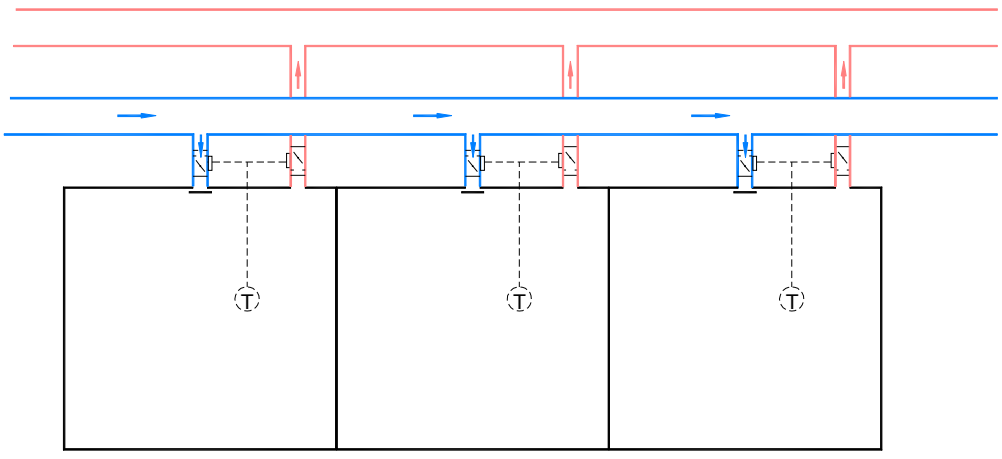
Nella connessione in parallelo, sia il dispositivo di controllo della mandata che quello della ripresa ricevono il segnale di controllo direttamente dal regolatore.

Le portate possono essere impostate in modo indipendente tra la mandata e la ripresa.

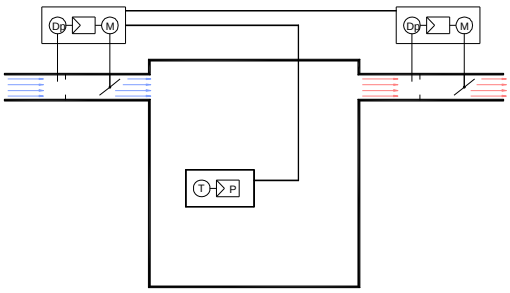
Questo sistema di connessione si usa:

- Negli impianti in cui le serrande di mandata e di ripresa sono di dimensioni diverse o sono richieste portate minime e massime diverse tra loro.
- Sistemi con varie unità di mandata e ripresa.
- Si consigliano gli impianti con connessione in parallelo poiché la loro progettazione, installazione e messa in funzione sono più facili.

SUPPLY EXHAUST CONTROL (parallel)



Supply and Exhaust control:
MASTER-SLAVE CONNECTION.



CONNESSIONE mandata e ripresa MASTER-SLAVE

In un controllo Master-Slave il regolatore manda il segnale di setpoint alla serranda di mandata e quest'ultima manda il segnale alla serranda di ripresa che agisce da slave della prima.

Questo sistema di connessione si usa:

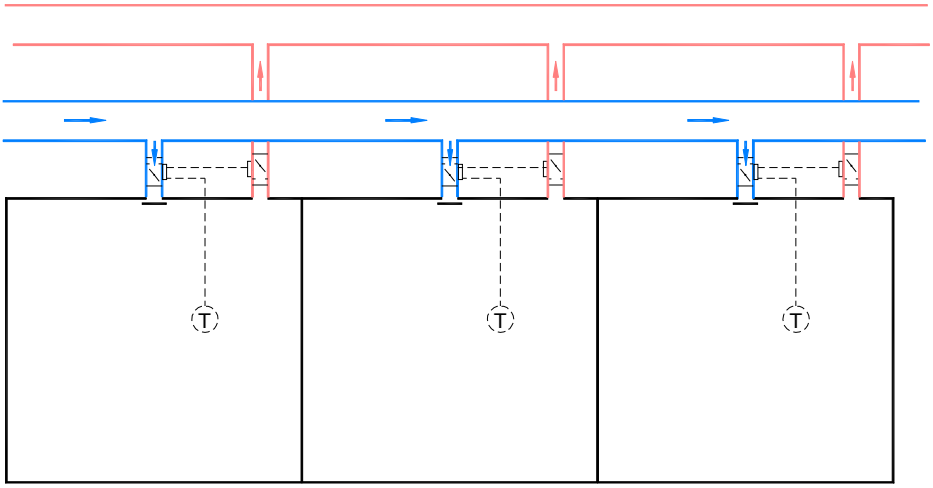
- Negli impianti in cui le serranda di ripresa lavora in sequenza rispetto a quella di mandata.
- Si usa in zone in cui le serrande di mandata e di ripresa sono di dimensioni simili.

Inconvenienti

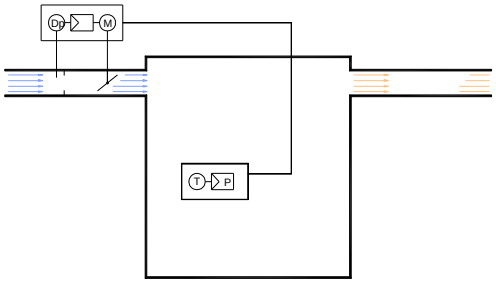
- Ogni unità deve essere chiaramente etichettata come Master o Slave e deve essere montata sul lato giusto (se si scambiano le unità dovranno essere parametrizzate di nuovo).

La connessione Master-Slave richiede la corretta identificazione in tutto il processo: dalla progettazione, alla produzione dell'ordine, all'installazione e alla messa in funzione.

SUPPLY EXHAUST CONTROL (master / slave)



Supply Contrl : SUPPLY CONNECTION



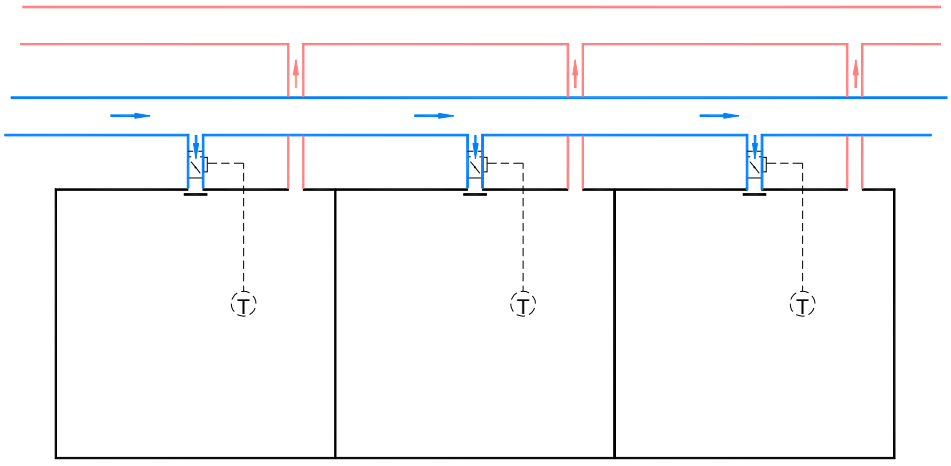
CONTROLLO SOLO SULLA MANDATA

Il regolatore manda il segnale solo al dispositivo di controllo della mandata.
In questo tipo di impianto le riprese non sono controllate.

Questo sistema di connessione:

È un controllo economico in quanto non si installa la serranda di ripresa.
Questo tipo di impianto non effettua il controllo della portata di ripresa per zona, perciò alcune zone saranno in sovrapressione e altre in depressione.

SUPPLY CONTROL



REGOLAZIONE DELLA PORTATA DELL'ARIA E CONNESSIONE STANDARD

Le serrande **SVA-C** sono fornite con le portate **Vmin** e **Vmax** preimpostate di fabbrica seguendo le indicazioni del cliente; queste portate possono essere modificate facilmente, se necessario, con le serrande già installate se si hanno a disposizione gli attrezzi di regolazione.

Se nell'ordine non sono indicate le portate da impostare per le serrande, le portate vengono regolate secondo il **limite di funzionamento**. Se viene indicata solo una portata, quest'ultima sarà considerata Vmax, mentre Vmin sarà il **limite inferiore di funzionamento**.

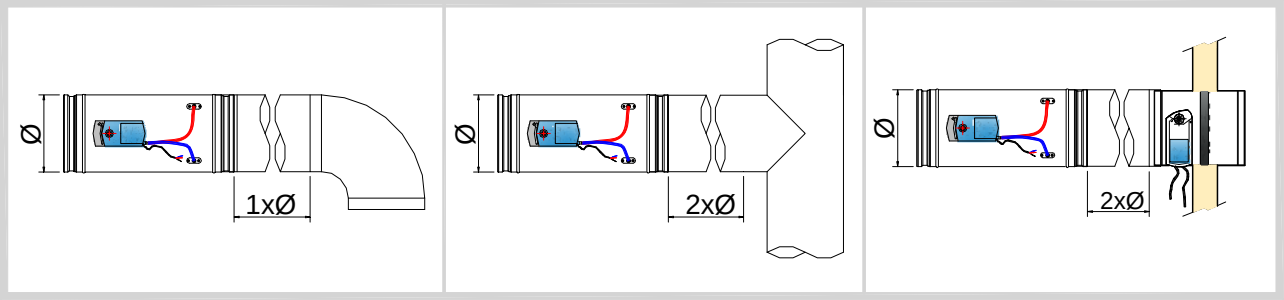
Le serrande SVA-C sono fornite impostate per la connessione in parallelo; se invece il cliente desidera l'impostazione Master-Slave dovrà farne esplicita richiesta.

PRECAUZIONI

Per evitare la contaminazione della croce di misurazione, l'aria deve essere pulita, perciò negli impianti in cui l'aria è sporca si consiglia di filtrarla (le serrande SVA-C sono appositamente progettate per impianti di climatizzazione).

Occorre prevenire qualsiasi intasamento tra la croce di misurazione e il servomotore. L'intasamento potrebbe essere causato dalla comparsa di condensa all'interno di questi manicotti quando è alto il gradiente dell'aria di mandata e dell'aria a contatto con il manicotto; questa condensa potrebbe addirittura danneggiare il servomotore, quindi per evitare la condensa si devono isolare i manicotti.

ISTRUZIONI DI MONTAGGIO



PARTICOLARITÀ

Negli impianti VAV bisogna garantire la fornitura delle portate per le quali sono stati progettati, infatti, se non sono garantite le portate minime le serrande non riusciranno mai a regolare la portata e resteranno aperte al 100%.

CONTATTI FORZATI O IMPERATIVI

I servomotori dispongono di contatti forzati che consentono la chiusura o l'apertura totale delle serrande, indipendentemente dal segnale 0-10 V del regolatore.

Questi contatti consentono la chiusura totale della serranda in assenza di persone o l'apertura totale per raggiungere più velocemente il setpoint o forzare una ventilazione massima.

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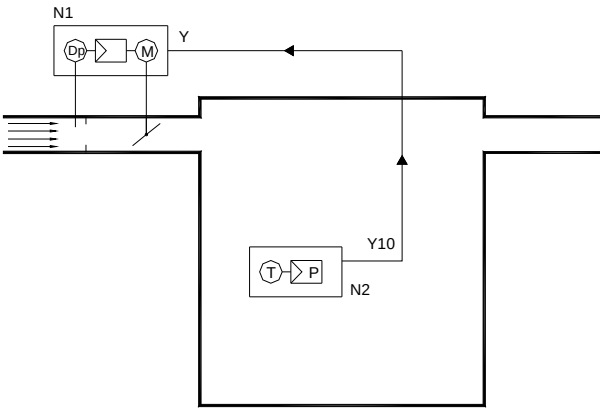
VAV - ROOM TEMPERATURE CONTROL WITH MANUAL CHANGEOVER

Wiring diagram SIEMENS

AIR SUPPLY CONTROL

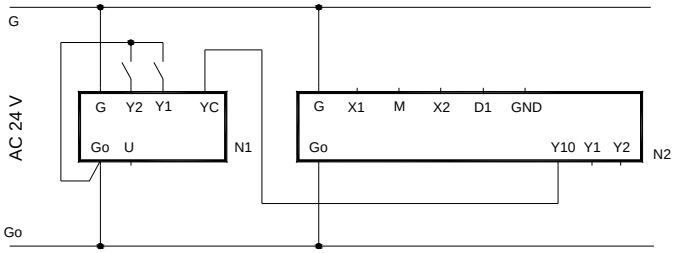


SVA-C /GDB181.1E/3/

RDG 400

N1 SVA –C / GDB181.1E/3

G	Red	(RD)	Live AC 24 V
G0	Black	(BK)	System neutral AC 24 V
Y1	Violet	(VT)	Position Signal (factory setting)
Y2	Orange	(OG)	Position signal (factory setting)
YC	Grey	(GY)	Air volume position signal DC 0.....10v
U	Pink	(PK)	Air volume measuring signal DC 0....10v

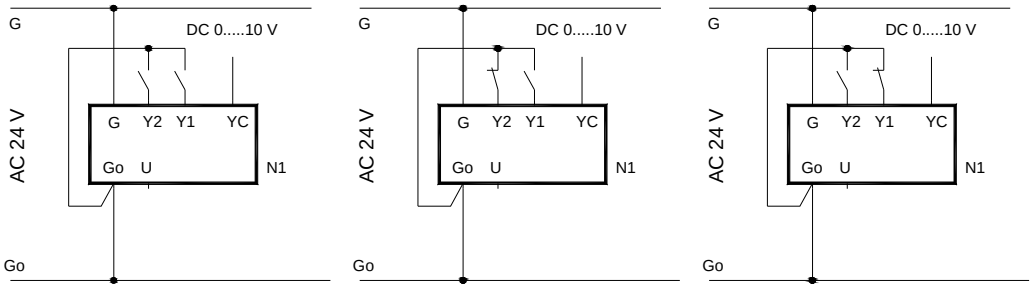


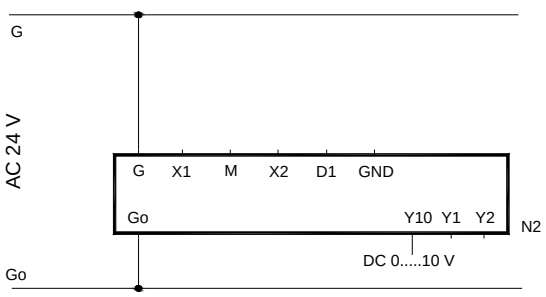
N2 RDG 400

G ,G0 Operating voltage AC 24 V
Y10/G0 Control ouput for DC 0 ... 0 V actuator
Y1 /G,Y2/G Control output.
X1,X2 Mulifunctional input for temperaure sensor
X1 external room temperature sensor.
X2 Switch for automatic heating/cooling changeover
M Measurring neutral for sensor and switch
D1,GND Multifunctional input for potential-free switch.

GDB181.1E/3 OVERRIDE CONTROL

Modular control Vmin amd Vmax **Fully closed** **Fully open**





N2 RDG 400 Room temperature controller
Commisioning
DIP Swiches

Parameters
P01 .....0 = only heating
1 = only Cooling (Default)
2 = Manual changeover
P02-P14 .....Defaut values

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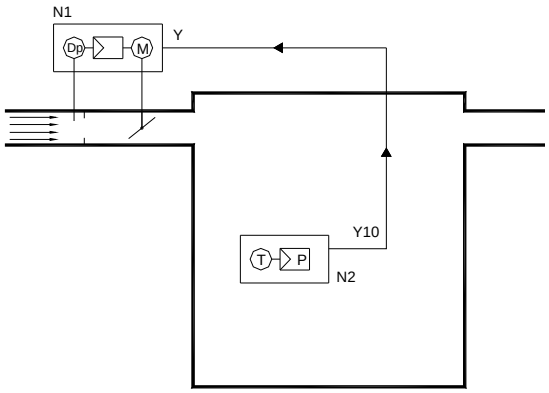
VAV - ROOM TEMPERATURE CONTROL WITH REMOTE CHANGEOVER

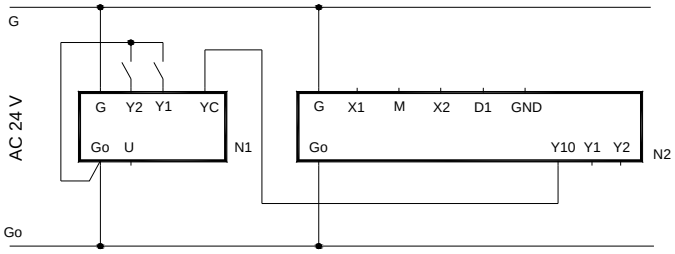
Wiring diagram SIEMENS

AIR SUPPLY CONTROL



SVA-C /GDB181.1E/3/

RDG 400



N1 SVA –C / GDB181.1E/3

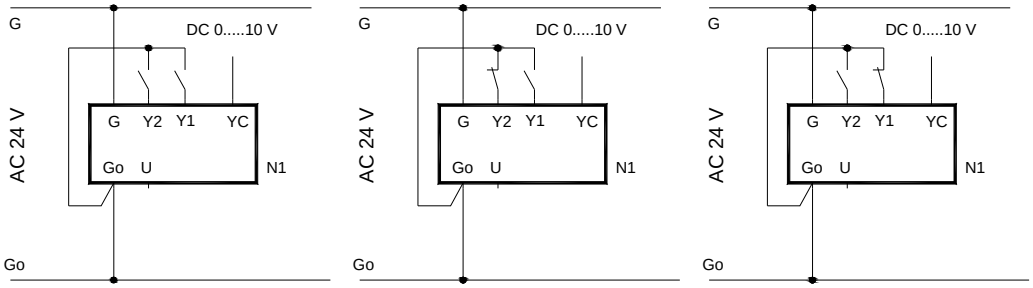
G	Red	(RD)	Live AC 24 V
G0	Black	(BK)	System neutral AC 24 V
Y1	Violet	(VT)	Position Signal (factory setting)
Y2	Orange	(OG)	Position signal (factory setting)
YC	Grey	(GY)	Air volume position signal DC 0.....10v
U	Pink	(PK)	Air volume measuring signal DC 0....10v

N2 RDG 400

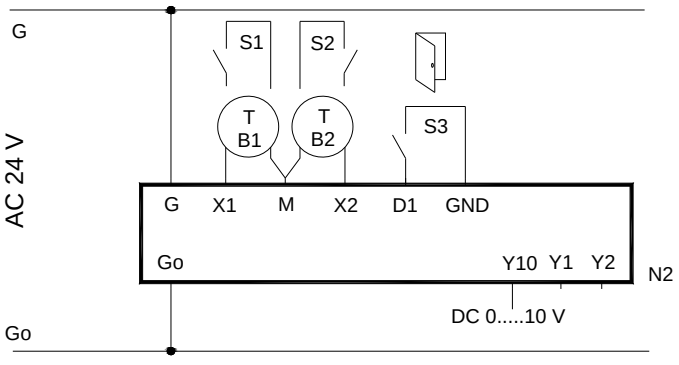
G ,G0 Operating voltage AC 24 V
Y10/G0 Control ouput for DC 0 ... 0 V actuator
Y1 /G,Y2/G Control output.
X1,X2 Mulifunctional input for temperaure sensor
X1 external room temperature sensor.
X2 Switch for automatic heating/cooling changeover
M Measurring neutral for sensor and switch
D1,GND Multifunctional input for potential-free switch.

GDB181.1E/3 OVERRIDE CONTROL.

Modular control Vmin amd Vmax | **Fully closed** | **Fully open**



RDG 400



N2 RDG 400 Room Temperature controller
Commisioning
DIP Swiches

Parameters
P01..... 3= automatic heating / cooling changeover

P02-P14.....Defaut values.

TB2 - Automatic heating / cooling changeover.
Optional - Switch or Sensor **QAH11.1**
QAH1.1 install in the supply air.
S3 - Optional Switch (keycard,window contacto, etc)

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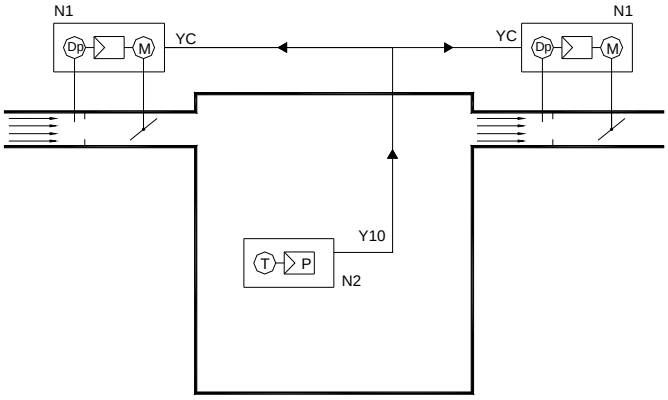
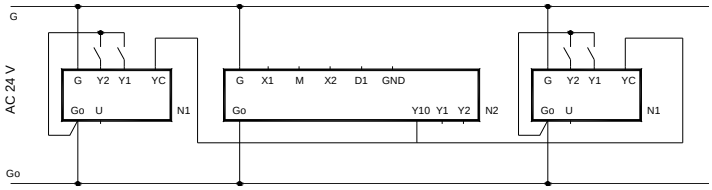
VAV - ROOM TEMPERATURE CONTROL WITH REMOTE CHANGEOVER

Wiring diagram SIEMENS

AIR SUPPLY AND EXHAUST CONTROL WITH PARALLEL CONNECTION



SVA-C /GDB181.1E/3/ **RDG 400**



N1 SVA –C / GDB181.1E/3

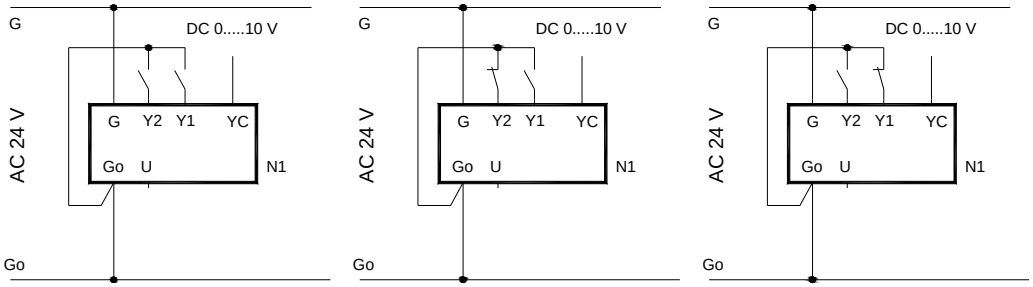
G	Red	(RD)	Live AC 24 V
G0	Black	(BK)	System neutral AC 24 V
Y1	Violet	(VT)	Position Signal (factory setting)
Y2	Orange	(OG)	Position signal (factory setting)
YC	Grey	(GY)	Air volume position signal DC 0.....10v
U	Pink	(PK)	Air volume measuring signal DC 0....10v

N2 RDG 400

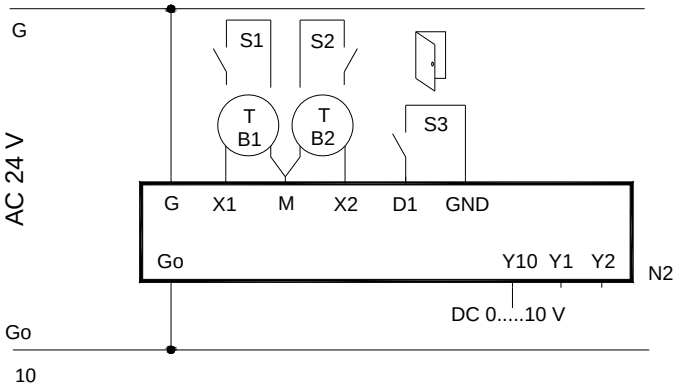
G ,G0 Operating voltage AC 24 V
Y10/G0 Control ouput for DC 0 ... 0 V actuator
Y1 /G,Y2/G Control output.
X1,X2 Mulifunctional input for temperaure sensor
X1 external room temperature sensor.
X2 Switch for automatic heating/cooling changeover
M Measurring neutral for sensor and switch
D1,GND Multifunctional input for potential-free switch.

GDB181.1E/3 OVERRIDE CONTROL (must be wired to both actuators)

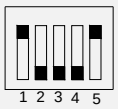
Modular control Vmin amd Vmax **Fully closed** **Fully open**



RDG 400



N2 RDG 400 Room temperature controller.
Commisioning
DIP Swiches



Parameters
P01..... 3= automatic heating / cooling changeover
P02-P14.....Defaut values.

TB2 - Automatic heating / cooling changeover.
Optional - Switch or Sensor **QAH11.1**
QAH1.1 install in the supply air.
S3 - Optional Switch (keycard,window contacto, etc)

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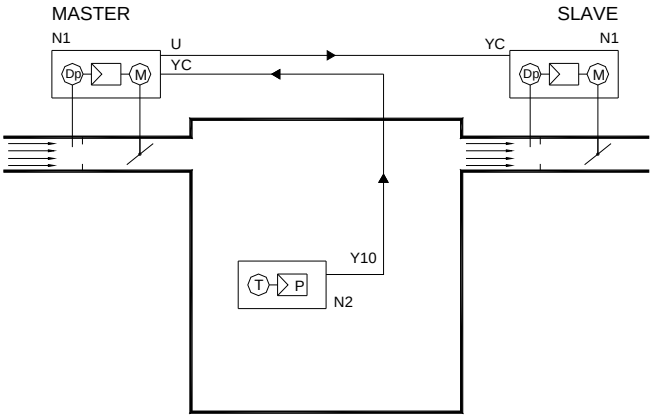
VAV - ROOMTEMPERATURE CONTROL WITH REMOTE CHANGEOVER **Wiring diagram** SIEMENS

AIR SUPPLY AND EXHAUST CONTROL WITH MASTER-SLAVE CONNECTION

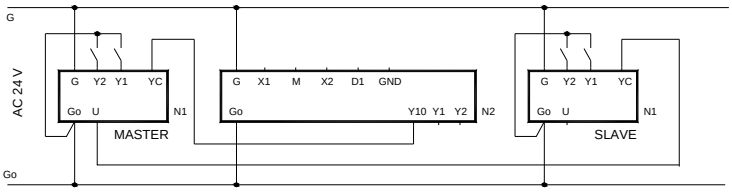


SVA-C /GDB181.1E/3/

RDG 400

N1 SVA –C / GDB181.1E/3

G	Red	(RD)	Live AC 24 V
G0	Black	(BK)	System neutral AC 24 V
Y1	Violet	(VT)	Position Signal (factory setting)
Y2	Orange	(OG)	Position signal (factory setting)
YC	Grey	(GY)	Air volume position signal DC 0.....10v
U	Pink	(PK)	Air volume measuring signal DC 0....10v

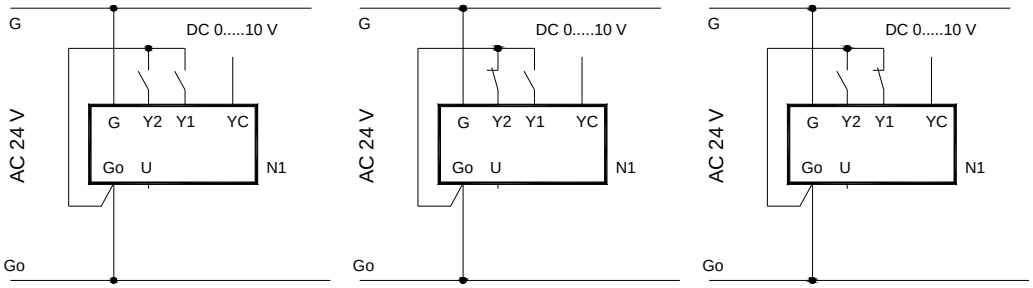


N2 RDG 400

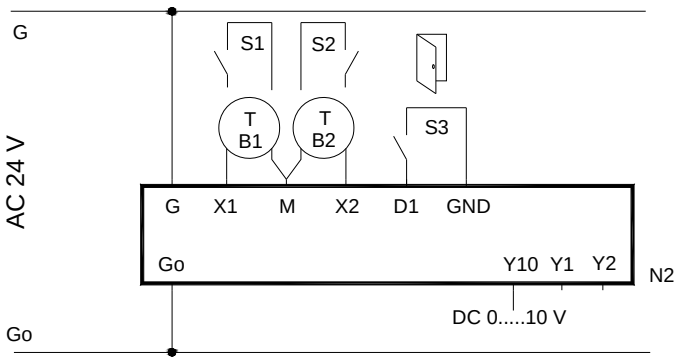
G ,G0 Operating voltage AC 24 V
Y10/G0 Control ouput for DC 0 ... 0 V actuator
Y1 /G,Y2/G Control output.
X1,X2 Mulifunctional input for temperaure sensor
X1 external room temperature sensor.
X2 Switch for automatic heating/cooling changeover
M Measurring neutral for sensor and switch
D1,GND Multifunctional input for potential-free switch.

GDB181.1E/3 OVERRIDE CONTROL (must be only wired to the MASTER)

Modular control Vmin amd Vmax Fully closed Fully open



RDG 400



N2 RDG 400 Room Temperature controller
Commisioning
DIP Swiches

Parameters
P01..... 3= automatic heating / cooling changeover

P02-P14.....Defaut values.

TB2 - Automatic heating / cooling changeover.
Optional - Switch or Sensor **QAH11.1**
QAH1.1 install in the supply air.
S3 - Optional Switch (keycard,window contacto, etc)

VAV - ROOM TEMP. CONTROL CENTRALIZED , REMOTE CHANGEOVER Wiring diagram SIEMENS

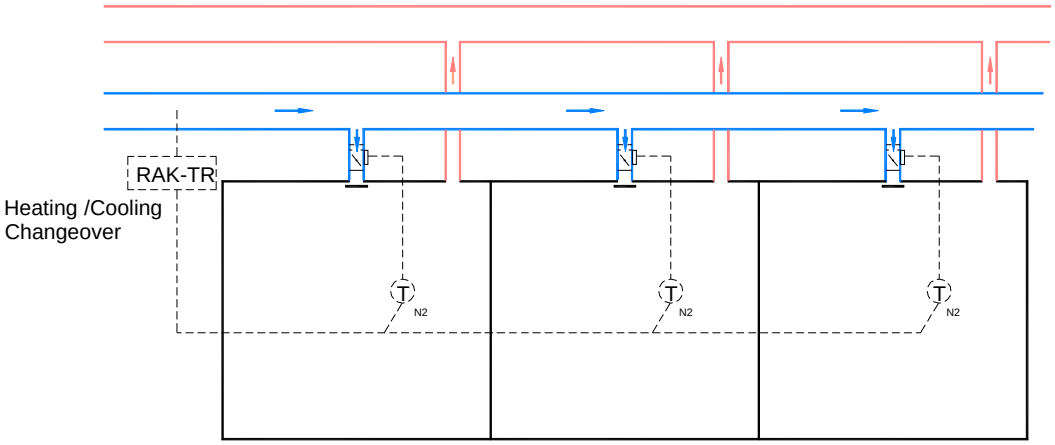
AIR SUPPLY CONTROL

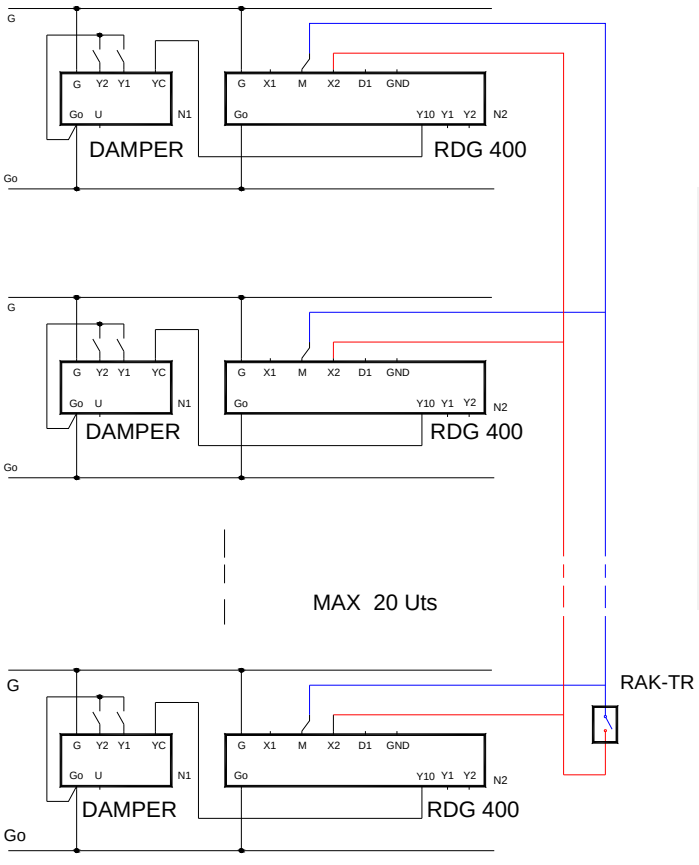
SVA-C /GDB181.1E/3/

RDG 400

RAK-TR

SUPPLY CONTROL



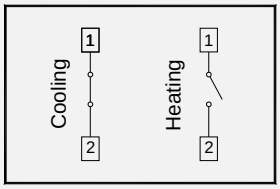


Mechanical Thermostat RAK-TR

Mechanical immersion thermostat, scale 0° to 40° C,
differential 2°, heating/cooling,

Case 200x100 mm, thread 1/2 ´´

(Select 27°C in the thermostat).

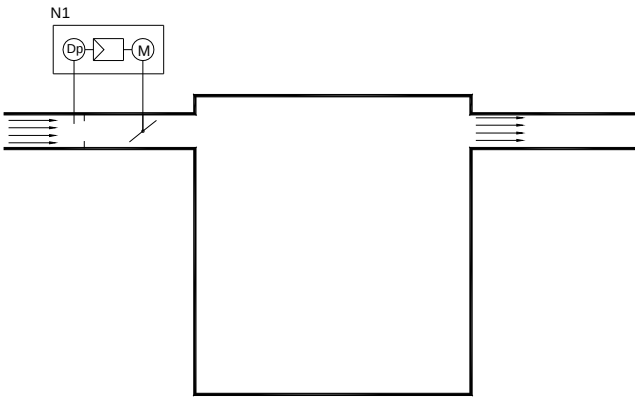


MADEL®

CAV CONSTANT AIR FLOW

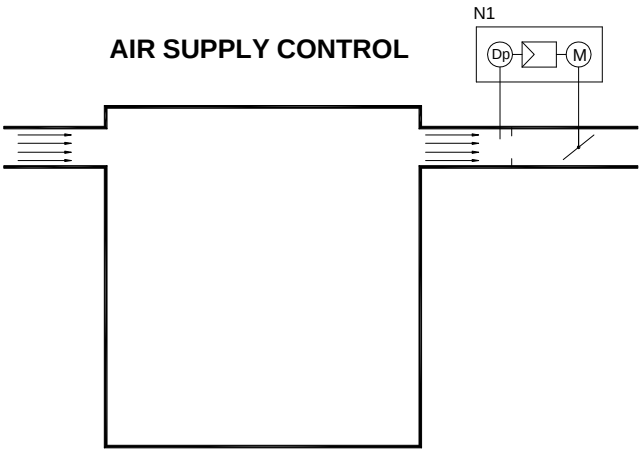
Wiring diagram SIEMENS

AIR SUPPLY OR EXHAUST CONTROL

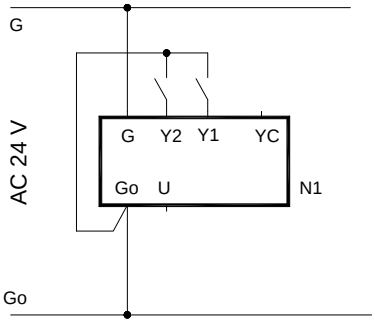


SVA-C /GDB181.1E/3/

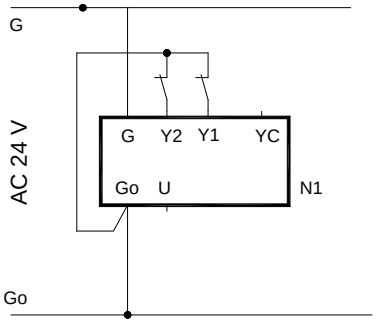
AIR SUPPLY CONTROL



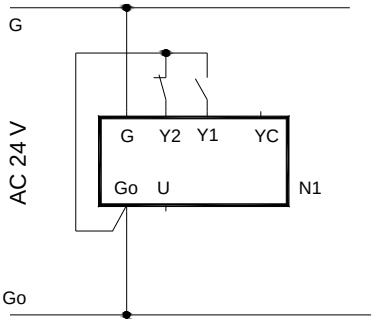
V min value



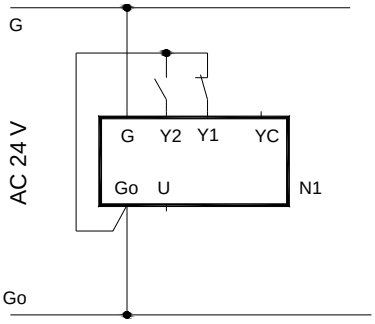
V max value



Fully closed



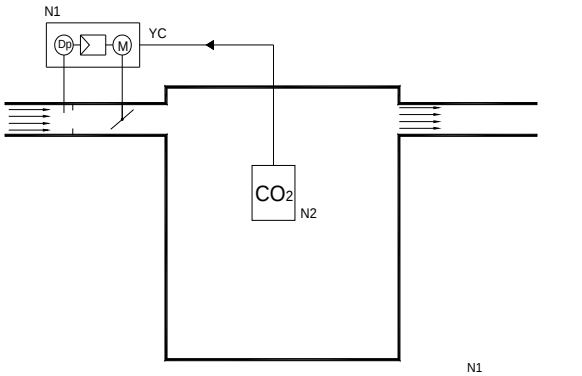
Fully open

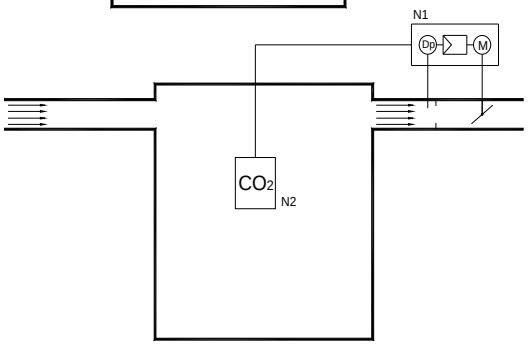


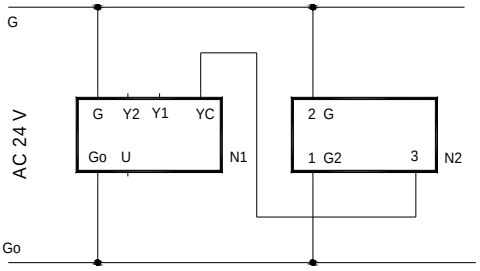
VAV - ROOM CO2 CONTROL. SUPPLY AND EXHAUST CONTROL

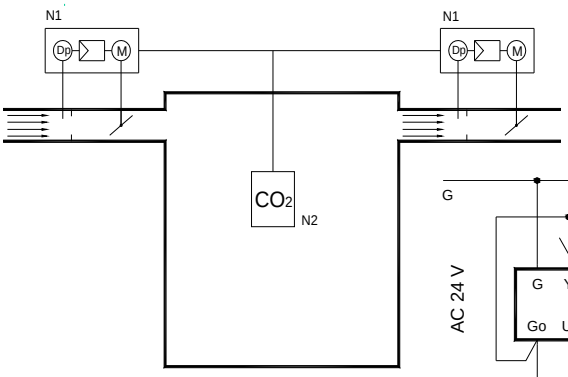
Wiring diagram SIEMENS

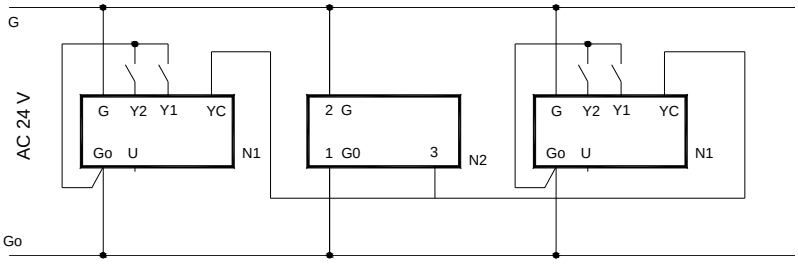
SVA-C /GDB181.1E/3/ CO2-WP











	CO_2 concentration (ppm)	
	Range	default value
IDA 1 High quality	≤ 400	350
IDA 2 Medium quality	400....600	500
IDA 3 Moderate quality	600....1.000	800
IDA 4 Low quality	> 1.000	1.200

350 ppm: Mean concentration in outside air.

500 to 800 ppm: Comfort conditions in buildings.

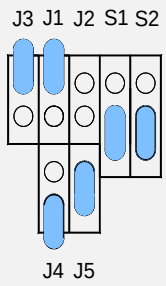
1500 ppm: Comfort limit in buildings.

Commissioning. Jumper Position.

	J1	J2
0-10 VDC(default)	disconnected	disconnected
2-10 VDC	connected	disconnected

	J3
PID out put (default)	disconnected
Linear output	connected

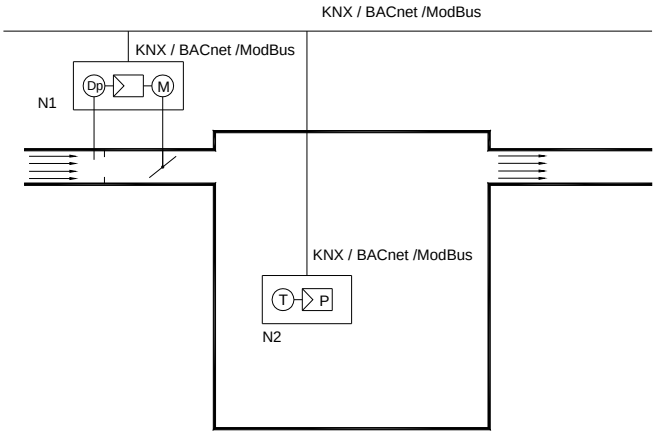
	J4	J5
350 ppm	disconnected	disconnected
500 ppm	connected	disconnected
800 ppm (default)	disconnected	connected
1200 ppm	connected	connected



COMMUNICATIVE VAV AIR CONTROL

Wiring diagram SIEMENS

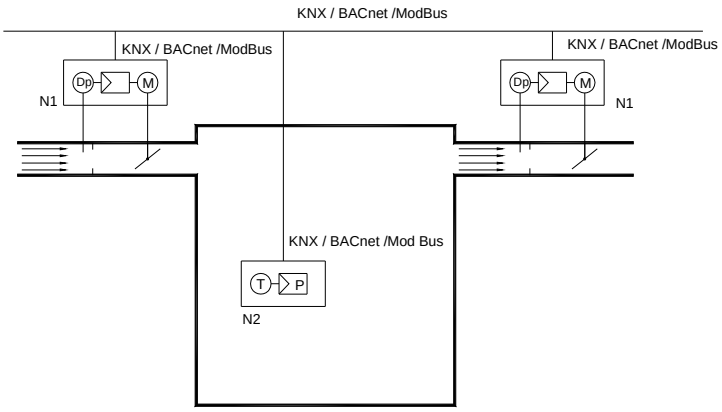
AIR SUPPLY CONTROL



N1 VAV compact air flow controller with Actuator and pressure sensor

N2 Room temperature controller with sensor

AIR SUPPLY AND EXHAUST CONTROL



N1 SVA –C / GDB181.1E/ KN /

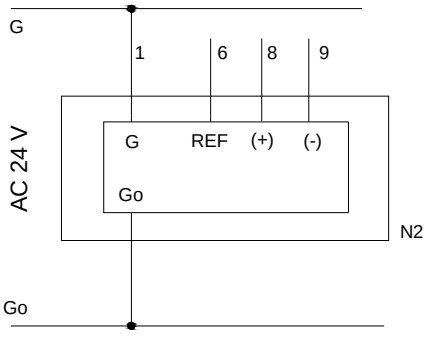
1	red (RD)	System voltage AC 24 V
2	black (BK)	System neutral AC 24 V
6	Violet (VT)	Reference
8	Grey (GY)	Bus (KNX RTU)
9	Pink (PK)	Bus (KNX RTU)

N1 SVA –C / GDB181.1E/ BA /

1	red (RD)	System voltage AC 24 V
2	black (BK)	System neutral AC 24 V
6	Violet (VT)	Reference
8	Grey (GY)	Bus (BACnet RTU)
9	Pink (PK)	Bus (BACnaet RTU)

N1 SVA –C / GDB181.1E/ MO /

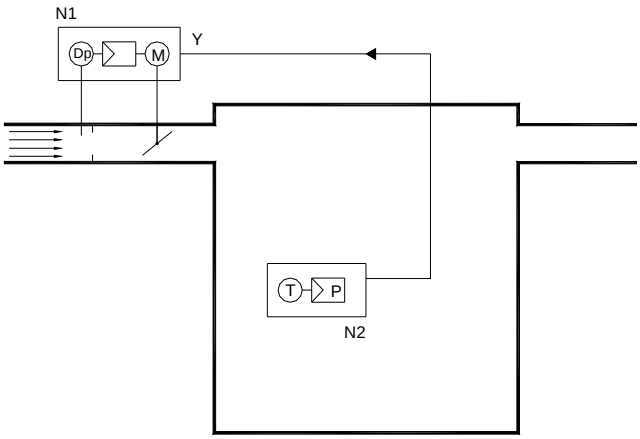
1	red (RD)	System voltage AC 24 V
2	black (BK)	System neutral AC 24 V
6	Violet (VT)	Reference
8	Grey (GY)	Bus (Modbus RTU)
9	Pink (PK)	Bus (Modbus RTU)



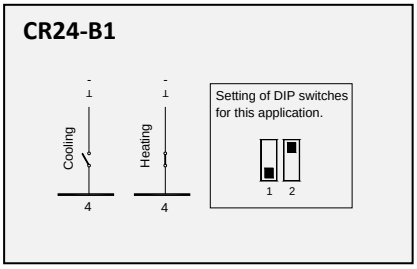
VAV - ROOM TEMPERATURE CONTROL WITH REMOTE CHANGEOVER

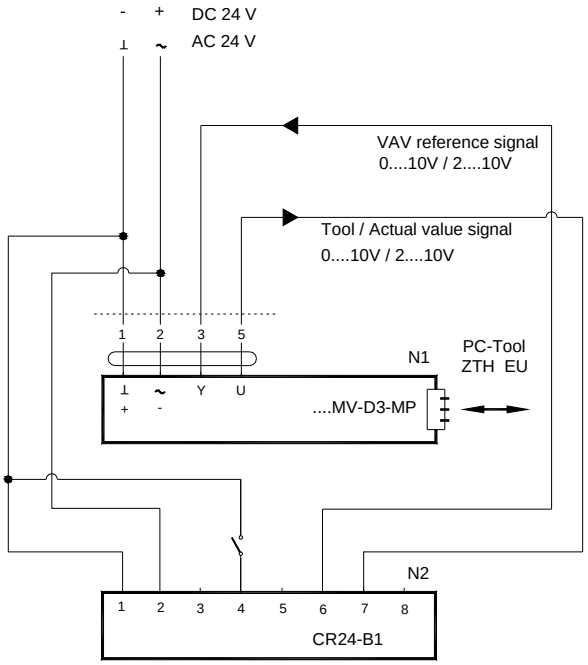
Wiring diagram BELIMO

AIR SUPPLY CONTROL

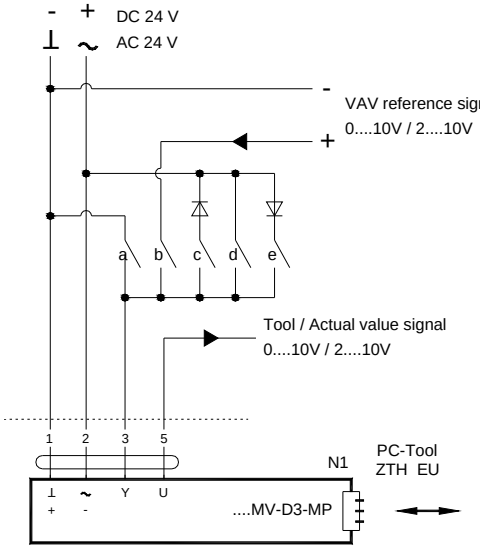


SVA-C/LMV-D3-MP/ CR24-B1





OVERRIDE CONTROL



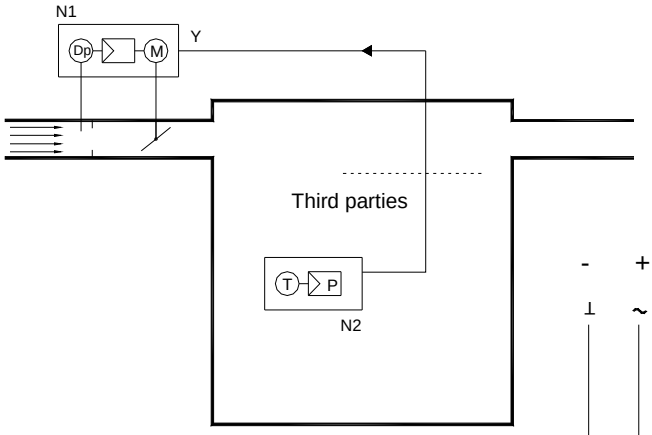
	a	b	c	d	e
Mode setting	-	0.....10 V	0.....10 V	0.....10 V	0.....10 V
	2.....10 V	2.....10 V	2.....10 V	2.....10 V	2.....10 V
Signal Function	⊥ - 3	0.....10 V 2.....10 V 3	~ 3	~ + 3	~ 3
Damper CLOSED	CLOSED		CLOSED		
$\dot{V}$ min...$\dot{V}$ max		VAV			
CAV...$\dot{V}$ min	ALL open - $\dot{V}$ min active				
Damper OPEN					OPEN
CAV...$\dot{V}$ max				$\dot{V}$ max	

Note. Only one contact closed at same time.
Signals 'c' and 'e' only available with AC 24 V supply.

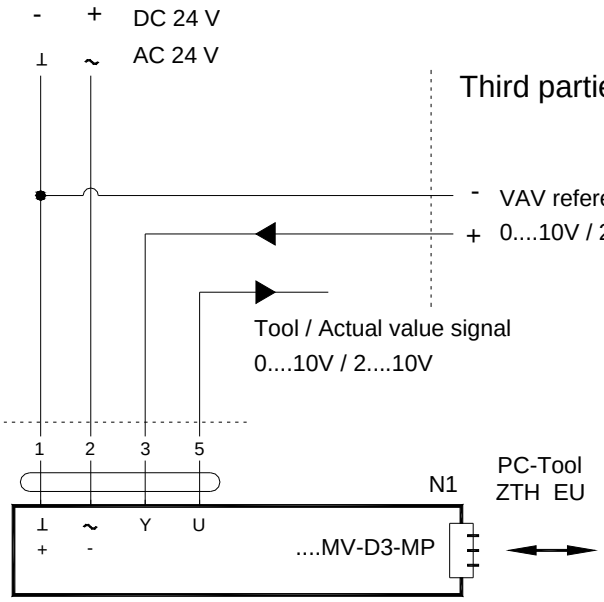
VAV - ROOM TEMPERATURE CONTROL

Wiring diagram BELIMO

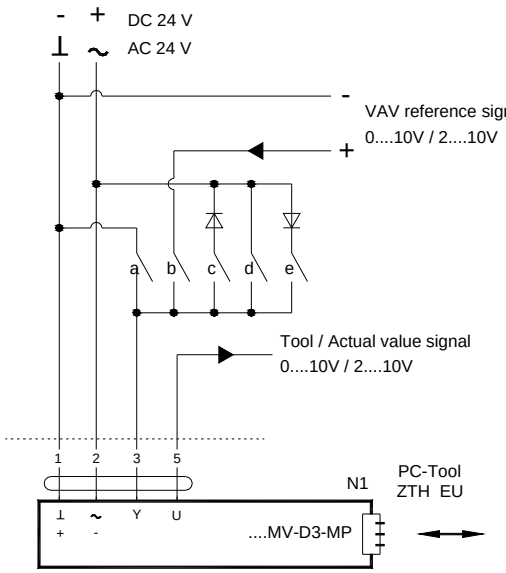
AIR SUPPLY CONTROL



SVA-C/LMV-D3-MP/



OVERRIDE CONTROL



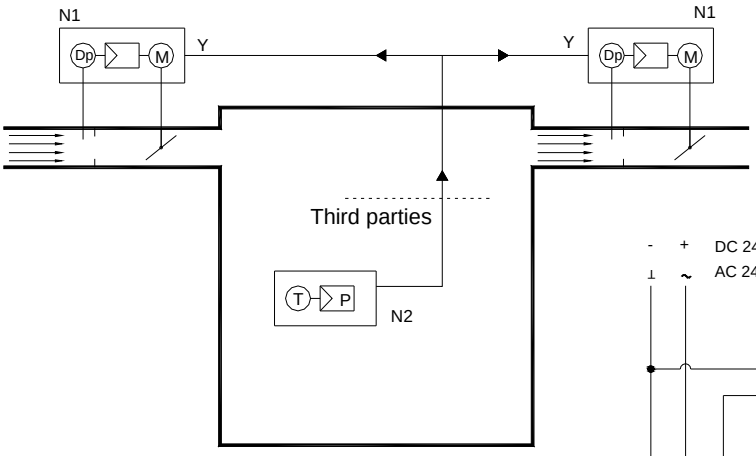
	a	b	c	d	e
Mode setting	-	0.....10 V	0.....10 V	0.....10 V	0.....10 V
	2.....10 V	2.....10 V	2.....10 V	2.....10 V	2.....10 V
Signal / Function	⊥ - 3	0.....10 V 2.....10 V 3	~ 3	~ + 3	~ 3
Damper CLOSED	CLOSED		CLOSED		
$\dot{V}$ min...$\dot{V}$ max		VAV			
CAV...$\dot{V}$ min	ALL open - $\dot{V}$ min active				
Damper OPEN					OPEN
CAV...$\dot{V}$ max				$\dot{V}$ max	

Note. Only one contact closed at same time.
Signals 'c' and 'e' only available with AC 24 V supply.

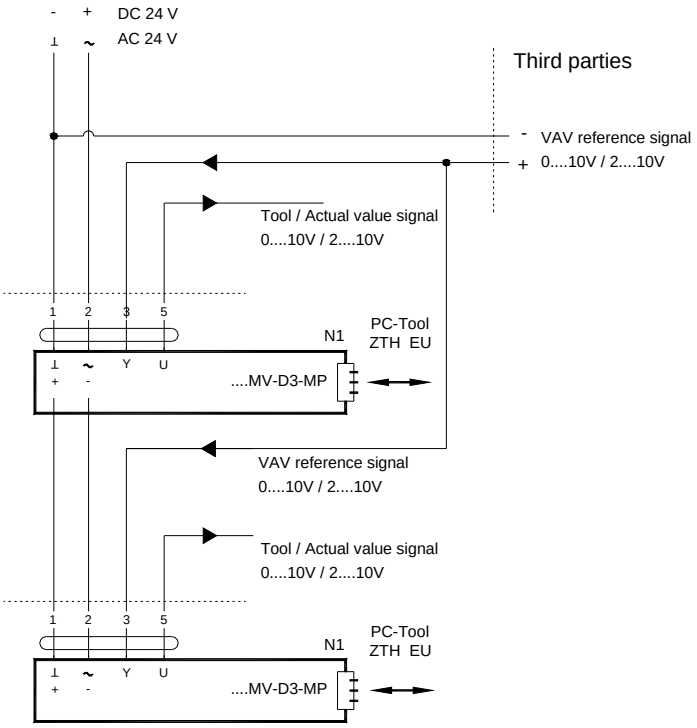
VAV - ROOM TEMPERATURE CONTROL

Wiring diagram BELIMO

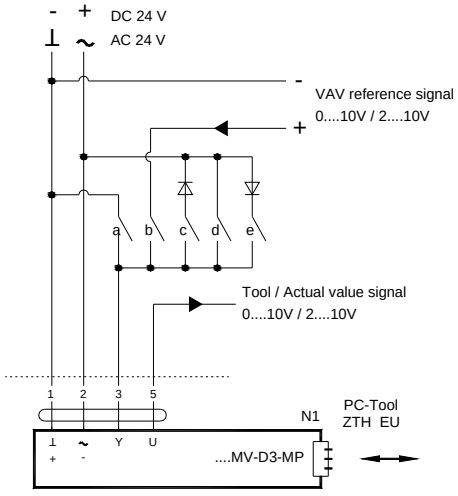
AIR SUPPLY AND EXHAUST CONTROL WITH PARALLEL CONNECTION



SVA-C/LMV-D3-MP/



OVERRIDE CONTROL (must be wired to both actuators)



	a	b	c	d	e
Mode setting	-	0.....10 V	0.....10 V	0.....10 V	0.....10 V
	2.....10 V	2.....10 V	2.....10 V	2.....10 V	2.....10 V
Signal	⊥ -	0.....10 V 2.....10 V	~	~ +	~
Function	3	3	3	3	3
Damper CLOSED	CLOSED		CLOSED		
$\dot{V}$ min...$\dot{V}$ max		VAV			
CAV...$\dot{V}$ min	ALL open - $\dot{V}$ min active				
Damper OPEN					OPEN
CAV...$\dot{V}$ max				$\dot{V}$ max	

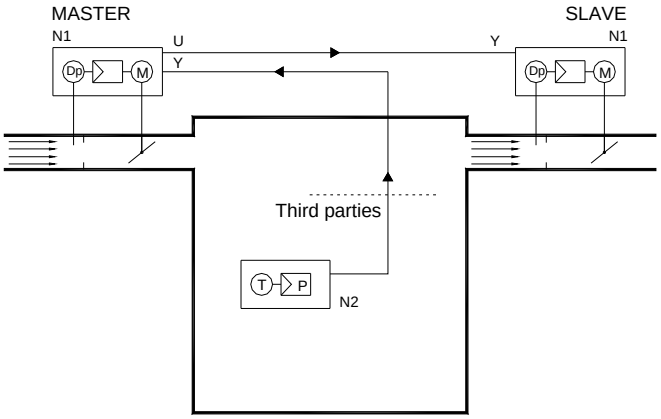
Note. Only one contact closed at same time.
Signals 'c' and 'e' only available with AC 24 V supply.

MADEL®

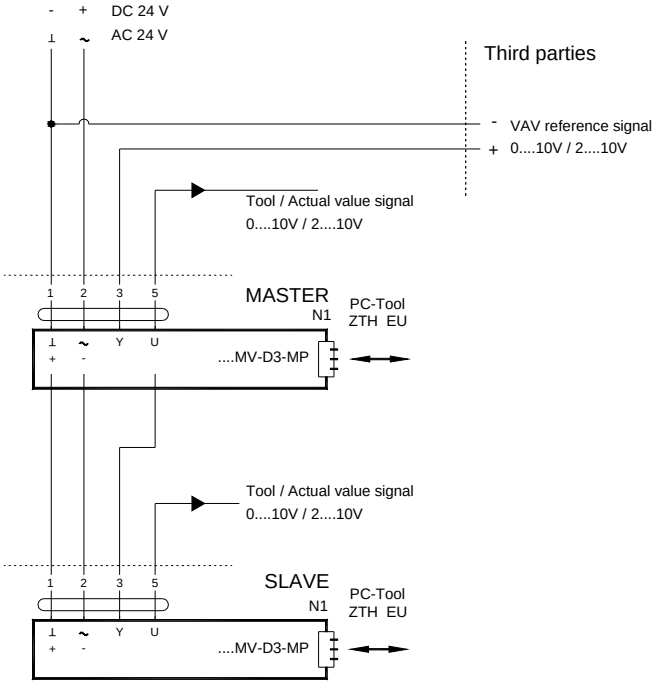
VAV - ROOM TEMPERATURE CONTROL

Wiring diagram BELIMO

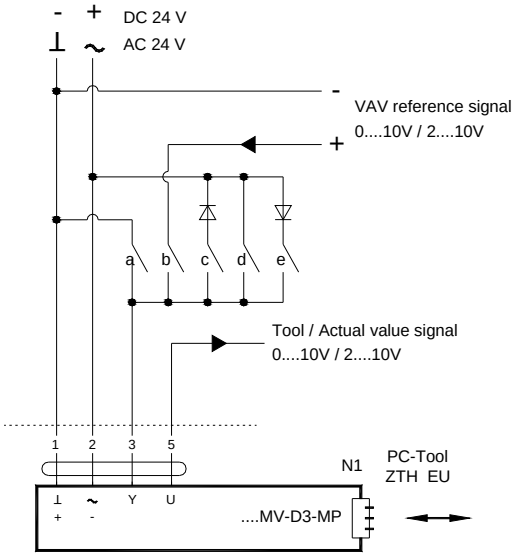
AIR SUPPLY AND EXHAUST CONTROL WITH MASTER-SLAVE CONNECTION



SVA-C/LMV-D3-MP/



OVERRIDE CONTROL (must be only wired to the MASTER)



	a	b	c	d	e
Mode setting	-	0.....10 V	0.....10 V	0.....10 V	0.....10 V
	2.....10 V	2.....10 V	2.....10 V	2.....10 V	2.....10 V
Signal	⊥ -	0.....10 V 2.....10 V	~	~ +	~
Function	3	3	3	3	3
Damper CLOSED	CLOSED		CLOSED		
V̇ min...V̇ max		VAV			
CAV...V̇ min	ALL open - V̇ min active				
Damper OPEN					OPEN
CAV...V̇ max				V̇ max	

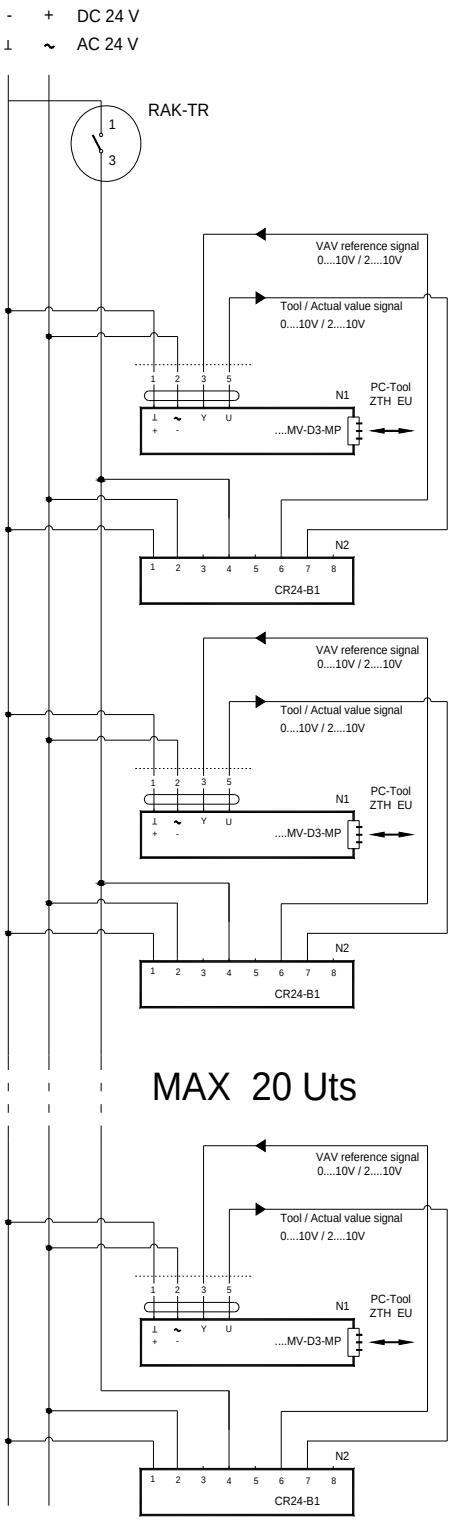
Note. Only one contact closed at same time.
Signals 'c' and 'e' only available with AC 24 V supply.

MADEL®

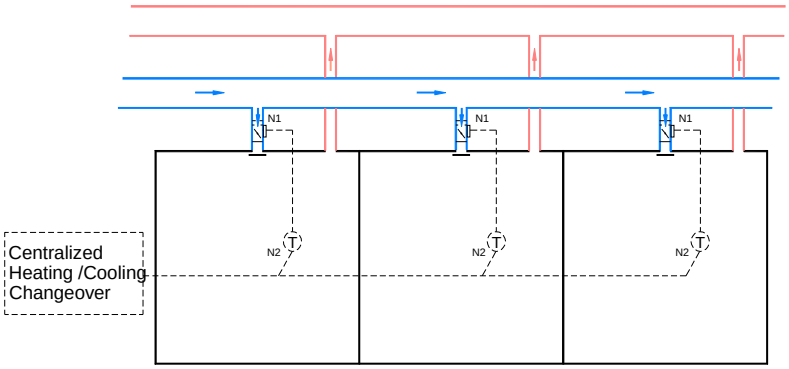
VAV - ROOM TEMP. CONTROL WITH CENTRALIZED, REMOTE CHANGEOVER **Wiring diagram** BELIMO

AIR SUPPLY CONTROL

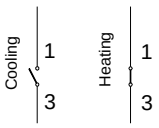
SVA-C/LMV-D3-MP/ **CR24-B1** **RAK-TR**



SUPPLY CONTROL



RAK-TR



RAK-TR Setpoint temperature

Tsupplysummer = Tsc

Tsupplywinter = Tsc

$$Tsetpoint = \frac{Tsh + Tsc}{2} + 3$$

Temperature between Tsh-Tsc < 6º C

CR24-B1

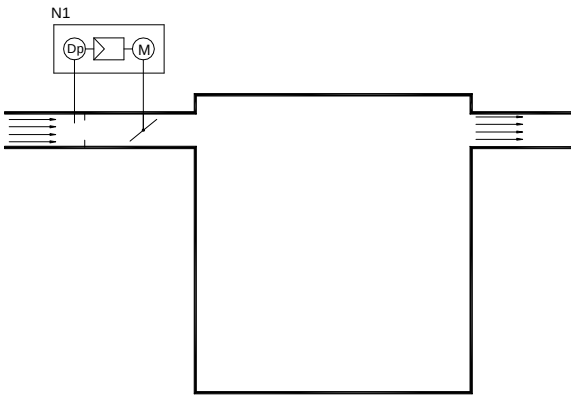
Setting of DIP switches for this application.

MADEL®

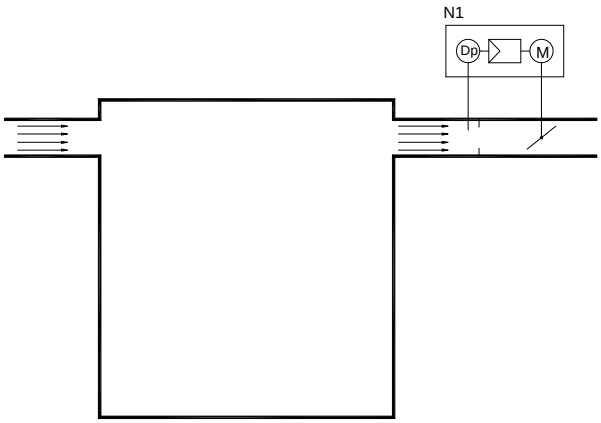
CAV CONSTANT AIR FLOW

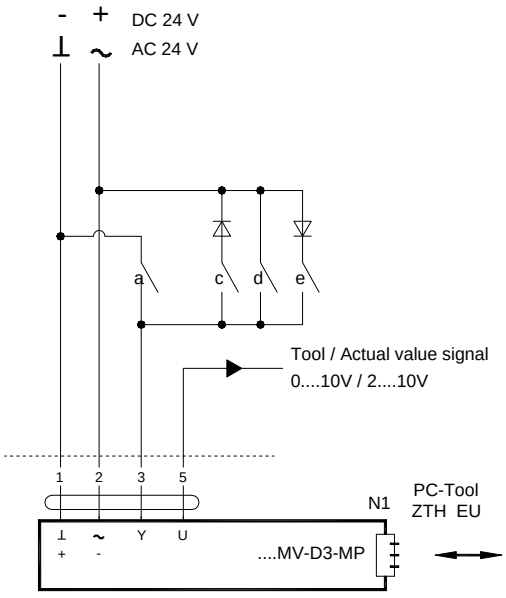
Wiring diagram BELIMO

AIR SUPPLY OR EXHAUST CONTROL



SVA-C/LMV-D3-MP/





	a	c	d	e
Mode setting	-	0.....10 V	0.....10 V	0.....10 V
	2.....10 V	2.....10 V	2.....10 V	2.....10 V
Signal	⊥ -	~	~ +	~
Function	3	3	3	3
Damper CLOSED	CLOSED	CLOSED		
Damper OPEN				OPEN
CAV...V̇ max			V̇ max	

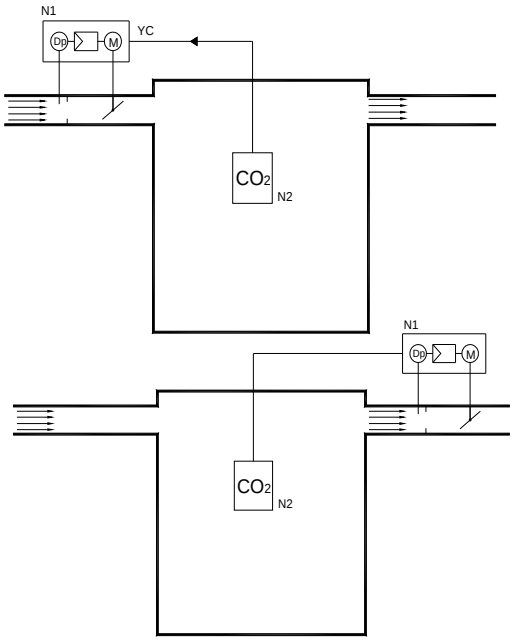
Note. Only one contact closed at same time.
Signals 'c' and 'e' only available with AC 24 V supply.

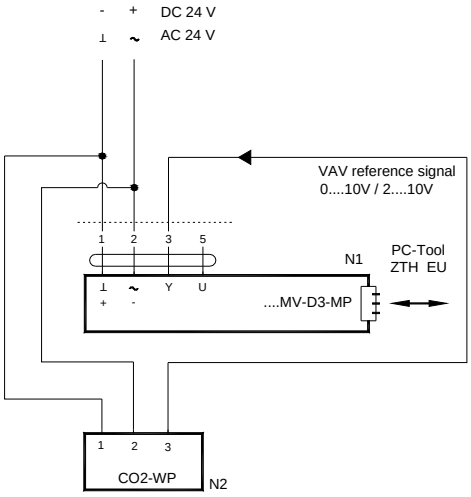
VAV - ROOM CO2 CONTROL. SUPPLY, EXHAUST CONTROL

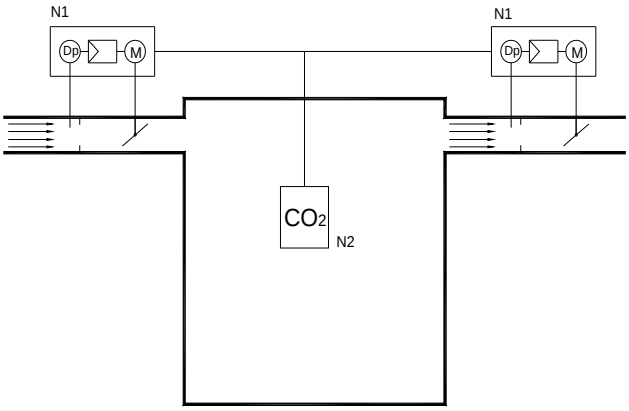
Wiring diagram BELIMO

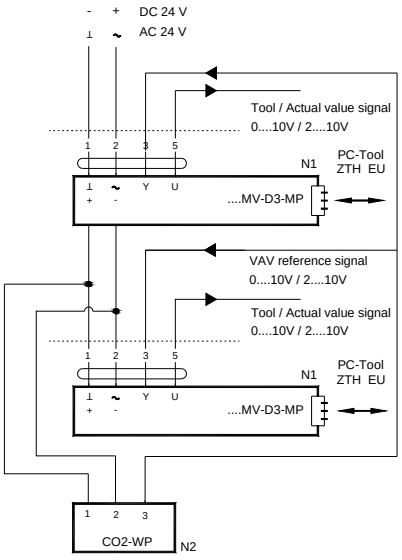
SVA-C/LMV-D3-MP/

CO2-WP









	CO_2 concentration (ppm)	
	Range	default value
IDA 1 High quality	≤ 400	350
IDA 2 Medium quality	400....600	500
IDA 3 Moderate quality	600....1.000	800
IDA 4 Low quality	> 1.000	1.200

350 ppm: Mean concentration in outside air.

500 to 800 ppm: Comfort conditions in buildings.

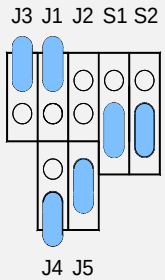
1500 ppm: Comfort limit in buildings.

Commissioning. Jumper Position.

	J1	J2
0-10 VDC(default)	disconnected	disconnected
2-10 VDC	connected	disconnected

	J3
PID out put (default)	disconnected
Linear output	connected

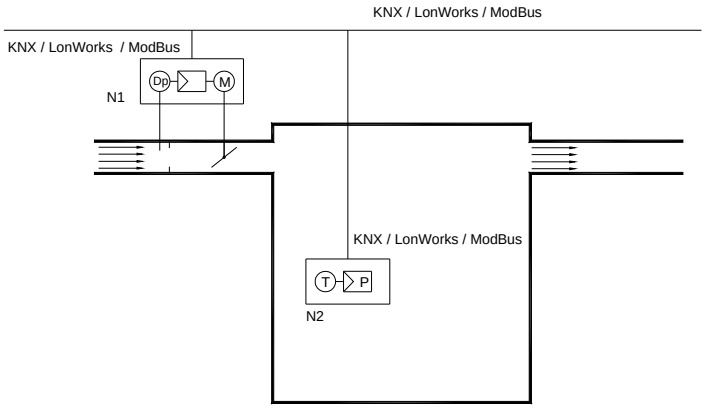
	J4	J5
350 ppm	disconnected	disconnected
500 ppm	connected	disconnected
800 ppm (default)	disconnected	connected
1200 ppm	connected	connected



COMMUNICATIVE VAV AIR CONTROL

Wiring diagram BELIMO

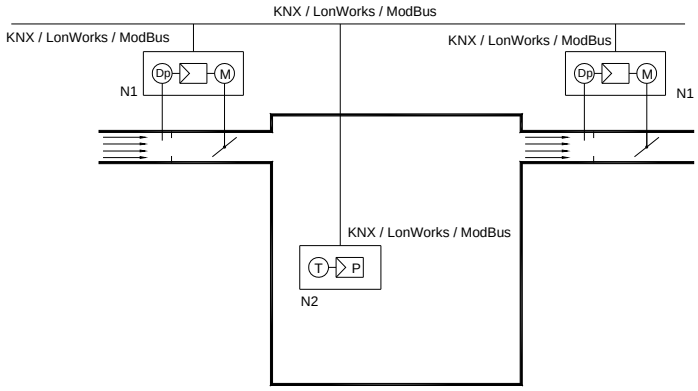
AIR SUPPLY CONTROL



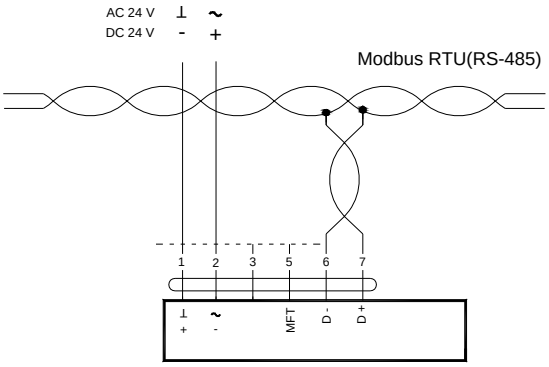
N1 -VAV compact air flow controller with actuator and pressure sensor

N2 Room temperature controller with sensor

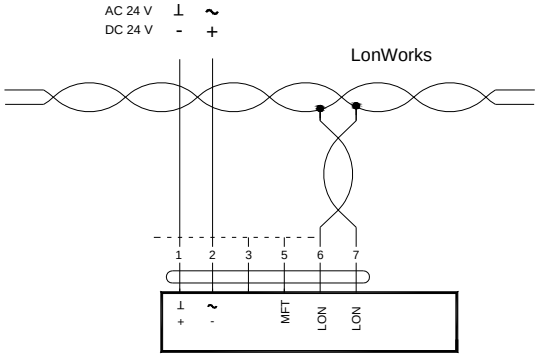
AIR SUPPLY AND EXHAUST CONTROL



N2 .....SVA-C /LMV-D3-MOD/



N2 .....SVA-C/LMV-D3LON/



N2 .....SVA-C/LMV-D3-KNX/