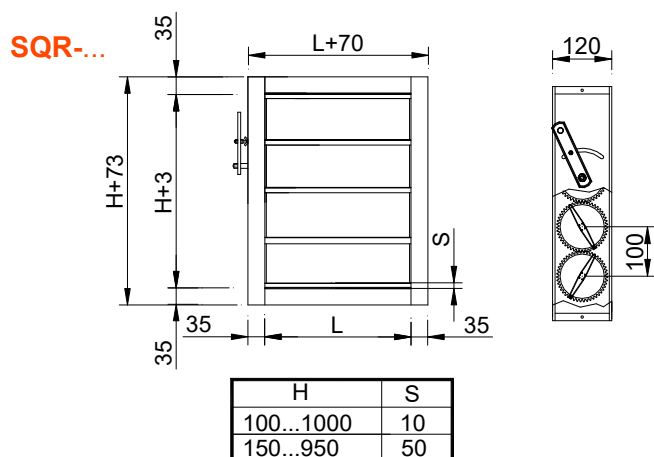




SQR serrande di regolazione rettangolare

M A D E L®

Le serrande della serie **SQR** sono state disegnate per la loro utilizzazione nella regolazione del flusso e della pressione, in installazioni di aria condizionata, ventilazione e riscaldamento. Lame contrapposte di 100 mm.



CLASSIFICAZIONE

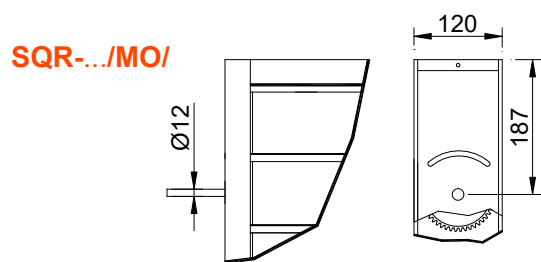
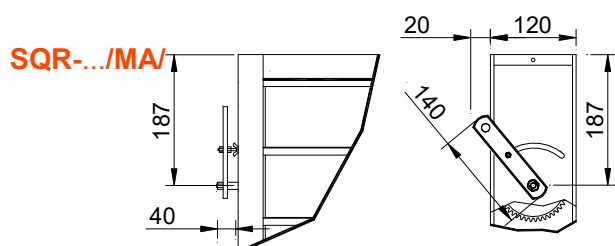
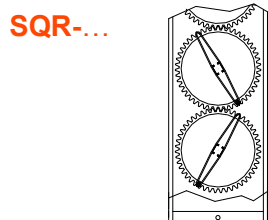
SQR-H Serranda a tenuta ad alette tamburate parallele a L.

SQR-V Serranda a tenuta ad alette tamburate parallele a H.

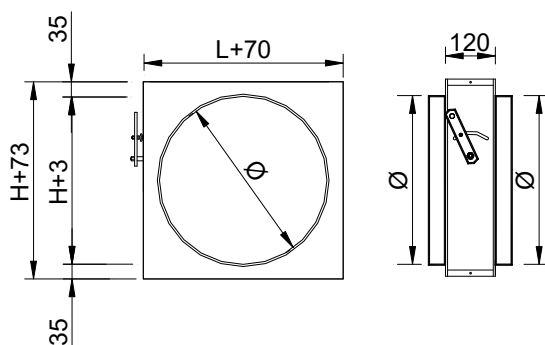
SQR-CC Serranda quadrata ad alette tamburate e raccordo circolare.

.../MA/ Regolazione manuale.

.../MO/ Predisposta alla motorizzazione.



SQR-CC



MATERIALE

Cornice in alluminio estruso a forma di "U".

Le lame, di forma aerodinamica, sono in alluminio estruso con una guarnizione di gomma sui bordi. Asta di acciaio galvanizzato.

Placca di protezione del sistema di trasmissione in acciaio galvanizzato. Cuscinetti di acetal (plastico) di alta resistenza. Trasmissioni per ingranaggi di poliamide-6, situati nella parte esteriore della serranda, per evitare sporcizia nella trasmissione.

SIEMENS



BELIMO



ON/OFF actuators

- GSD141.1A-24v Siemens actuator On/Off 2N
- GSD141.1A-230v Siemens actuator On/Off 2N
- GDB141.1E-24v Siemens actuator On/Off 5N
- GDB141.1E-230v Siemens actuator On/Off 5N
- GLB141.1E-24v Siemens actuator On/Off 10N
- GLB341.1E-230v Siemens actuator On/Off 10N
- GEB141.1E -24v Siemens actuator On/Off 20N
- GEB341.1E -230v Siemens actuator On/Off 20N
- LM24A Belimo actuator On/Off 5N
- LM230A Belimo actuator On/Off 5N
- NM24A Belimo actuator On/Off 10N
- NM230A Belimo actuator On/Off 10N

ON/OFF actuators with switches device

- GDB146.1E-24v Siemens actuator On/Off 5N, 2FC
- GDB346.1E-230v Siemens actuator On/Off 5N, 2FC
- GLB146.1E-24v Siemens actuator On/Off 10N, 2FC
- GLB346.1E-230v Siemens actuator On/Off 10N, 2FC
- GEB146.1E-24v Siemens actuator On/Off 15N, 2FC
- GEB346.1E-230v Siemens actuator On/Off 15N, 2FC
- LM24A-S Belimo actuator On/Off 5N, 1FC (*)
- LM230A-S Belimo actuator On/Off 5N, 1FC (*)
- NM24A-S Belimo actuator On/Off 10N, 1FC (*)
- NM230A-S Belimo actuator On/Off 10N, 1FC (*)

* Belimo actuator with end of course switch for 2 contacts.

ON/OFF actuators with spring return

- GPC121.1A-24v Siemens actuator On/Off 4N
- GPC321.1A-230v Siemens actuator On/Off 4N
- GMA121.1E-24v Siemens actuator On/Off 7N
- GMA321.1E-230v Siemens actuator On/Off 7N
- LF-24 Belimo actuator On/Off 4N
- LF-230 Belimo actuator On/Off 4N
- NFA Belimo actuator On/Off 24-230 VAC, 10N

ON/OFF act. with spring return and switches

- GPC126.1A-24v Siemens actuator On/Off 4N
- GPC326.1A-230v Siemens actuator On/Off 4N
- GMA126.1E-24v Siemens actuator On/Off 7N
- GMA326.1E-230v Siemens actuator On/Off 4N
- LF-24-S Belimo actuator On/Off 4N
- LF-230-S Belimo actuator On/Off 4N
- NFA-S2 Belimo actuator On/Off 24-230 VAC, 10N

Proportional actuators

- GDB161.1E-24v Siemens actuator proportional 5N
- GLB161.1E-24v Siemens actuator proportional 10N
- GEB161.1E-24v Siemens actuator proportional 15N
- LM24A-SR Belimo actuator proportional 5N
- LM230A-SR Belimo actuator proportional 5N
- NM24A-SR Belimo actuator proportional 10N
- NM230A-SR Belimo actuator proportional 10N

Proportional actuators with MODBUS

- GDB111.1E/MO-24v Siemens actuator proportional 5N
- GLB111.1E/MO-24v Siemens actuator proportional 10N
- LM24A-MOD Belimo actuator proportional 5N
- NM24A-MOD Belimo actuator proportional 10N

SELEZIONE POTENZA ATTUATORI

Nota: I serrande / MO / vengono forniti con il servomotore montato in fabbrica.

L x H mm	actuator N	L x H mm	actuator N	L x H mm	actuator N
200x100	5 N	700x250	5 N	700x600	5 N
300x100	5 N	800x250	5 N	800x600	5 N
400x100	5 N	900x250	5 N	900x600	5 N
500x100	5 N	1000x250	5 N	1000x600	5 N
600x100	5 N	1200x250	5 N	1200x600	5 N
700x100	5 N	1400x250	5 N	1400x600	10 N
800x100	5 N	1600x250	5 N	1600x600	10 N
900x100	5 N	1800x250	5 N	1800x600	10 N
1000x100	5 N	2000x250	5 N	2000x600	10 N
1200x100	5 N	300x300	5 N	700x700	5 N
1400x100	5 N	400x300	5 N	800x700	5 N
1600x100	5 N	500x300	5 N	900x700	5 N
1800x100	5 N	600x300	5 N	1000x700	5 N
2000x100	5 N	700x300	5 N	1200x700	5 N
200x150	5 N	800x300	5 N	1400x700	10 N
300x150	5 N	900x300	5 N	1600x700	10 N
400x150	5 N	1000x300	5 N	1800x700	10 N
500x150	5 N	1200x300	5 N	2000x700	10 N
600x150	5 N	1400x300	5 N	800x800	5 N
700x150	5 N	1600x300	5 N	900x800	5 N
800x150	5 N	1800x300	5 N	1000x800	10 N
900x150	5 N	2000x300	5 N	1200x800	10 N
1000x150	5 N	400x400	5 N	1400x800	10 N
1200x150	5 N	500x400	5 N	1600x800	10 N
1400x150	5 N	600x400	5 N	1800x800	15 N
1600x150	5 N	700x400	5 N	2000x800	15 N
1800x150	5 N	800x400	5 N	900x900	10 N
2000x150	5 N	900x400	5 N	1000x900	10 N
200x200	5 N	1000x400	5 N	1200x900	10 N
300x200	5 N	1200x400	5 N	1400x900	10 N
400x200	5 N	1400x400	5 N	1600x900	15 N
500x200	5 N	1600x400	5 N	1800x900	15 N
600x200	5 N	1800x400	5 N	2000x900	15 N
700x200	5 N	2000x400	5 N	1000x1000	10 N
800x200	5 N	500x500	5 N	1200x1000	10 N
900x200	5 N	600x500	5 N	1400x1000	10 N
1000x200	5 N	700x500	5 N	1600x1000	15 N
1200x200	5 N	800x500	5 N	1800x1000	15 N
1400x200	5 N	900x500	5 N	2000x1000	15 N
1600x200	5 N	1000x500	5 N		
1800x200	5 N	1200x500	5 N	CC	actuator
2000x200	5 N	1400x500	5 N	mm	N
300x250	5 N	1600x500	10 N	400	5 N
400x250	5 N	1800x500	10 N	450	5 N
500x250	5 N	2000x500	10 N	500	5 N
600x250	5 N	600x600	5 N	630	5 N

CONTROLLO TEMPERATURA

TF



TF-RC



TF Termostato a fili a cambio di modo freddo / caldo manuale, per il controllo della temperatura di 1 zona con serrande con servomotore On/Off.

TF-RC Termostato via radio a cambio di modo freddo caldo manuale, per il controllo della temperatura di 1 zona con serrande con attuatore On/Off.

**CO2-WP
CO2-WR**



RDG 400



RDG 400 Controllo di temperatura ambiente proporzionale Siemens, 0...10 vcc aliment. 24vac con display digitale retroilluminato, selettore confort /eco/ spento. Per serranda con attuatore proporzionale.

CO2-WP Sonda ambiente a parete 24 vdc-vac. Visualizzazione a LED. Uscite 0-10Vdc. Setpoint 600-800 -1000 ppm. IP30. Sonde di CO2 proporzionali (Richiedono attuatore proporzionale)

CO2-D Sonda per canale 24 vdc-vac con un'uscita 0-10Vdc, IP54. Sonde di CO2 proporzionali (Richiedono attuatore proporzionale)

CO2-WR Sonda ambiente a parete 24 vdc-vac. Visualizzazione a LED. Uscita digitale (relé 5A) Setpoint 800- 1000 -1200 ppm.. IP30. Sonde di CO2 con relé (Richiedono attuatore ON/OFF)

CO2-D



OS-360



OS-360 Sensore di presenza di movimento omnidirezionale a soffitto, per il controllo di elementi terminali HVAC. Alimentazione 24 Vac/Vdc. Uscita di contatto pulito parametrizzabile.

ACCESSORI DI MONTAGGIO

FC Kit free-cooling. Set di 2 serrande predisposte alla motorizzazione da montare a 90°.

SISTEMI DI FISSAGGIO

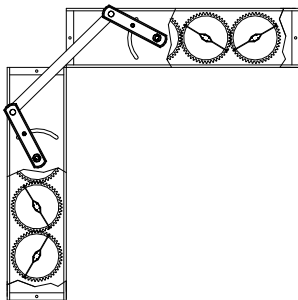
1) La cornice della serranda SQR é disegnata per essere montate su condotti o altre superfici piane.

CR Collo senza flange.

SPECIFICHE PER CAPITOLATO

Fornitura e posa in opera serranda di regolazione della portata da installare a canale rettangolare, a comando manuale serie **SQR-H/MA/ LxH**. Costruita in alluminio e trasmissione ad ingranaggi in poliammide. Marca **MADEL**.

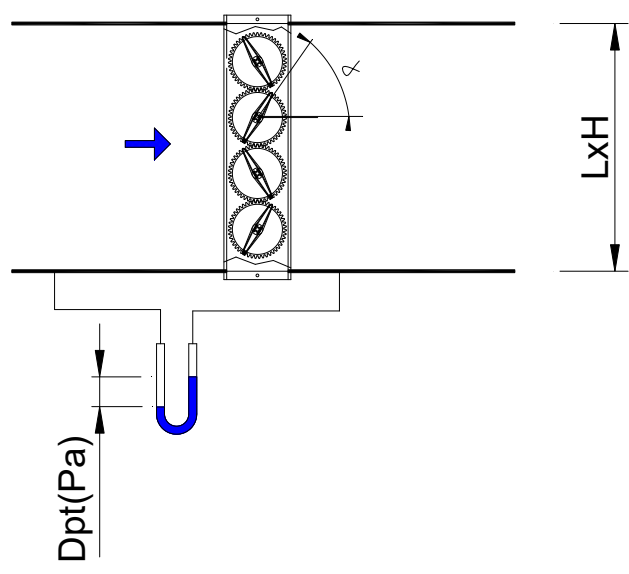
FC



SQR SERIES

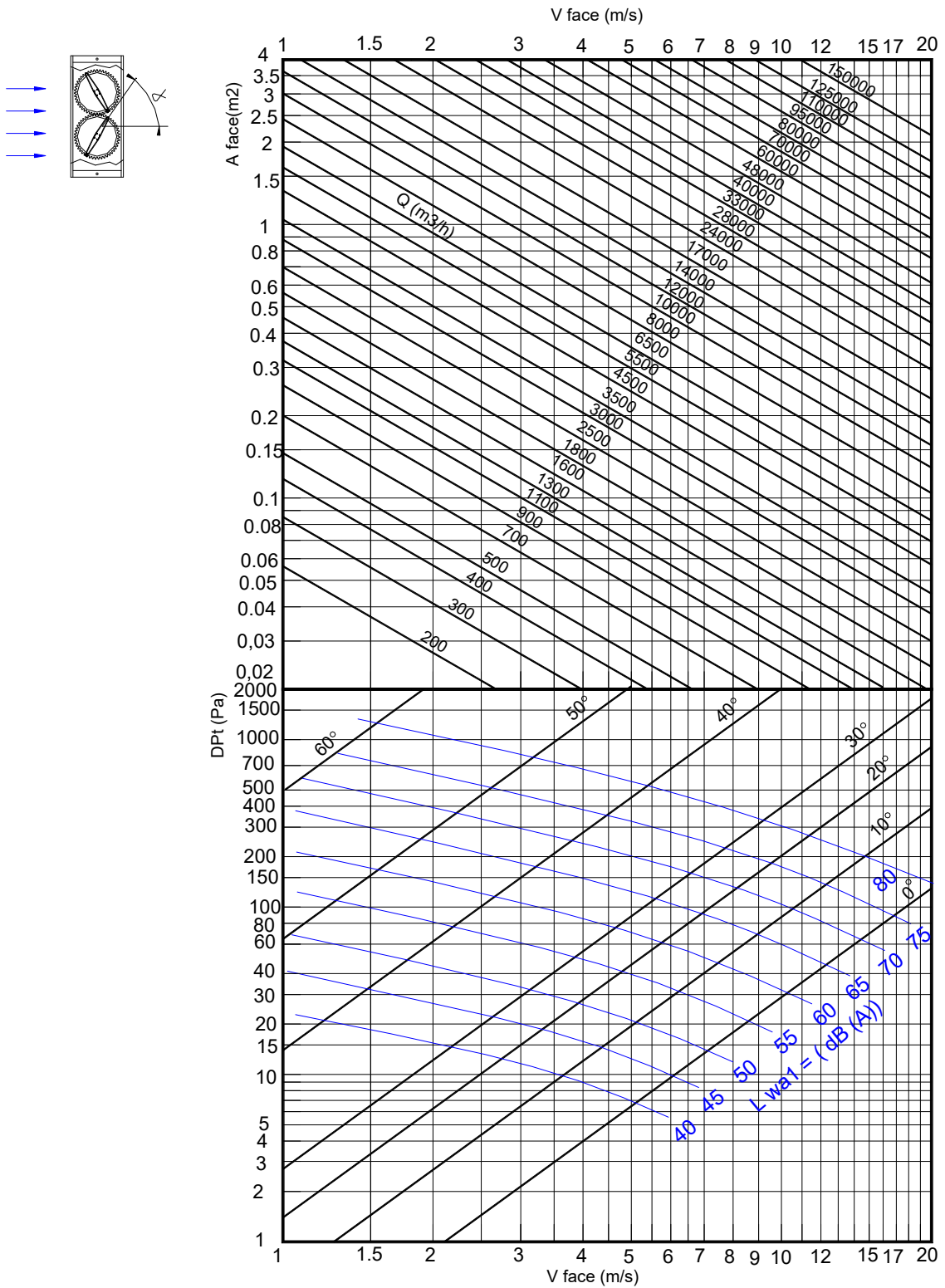
L x H [m²] (A face)

H [mm]	L [mm]											
	100	200	300	400	500	600	700	800	900	1000	1100	1200
100	0,010	0,020	0,030	0,040	0,050	0,060	0,070	0,080	0,090	0,100	0,110	0,120
150	0,015	0,030	0,045	0,060	0,075	0,090	0,105	0,120	0,135	0,150	0,165	0,180
200	0,020	0,040	0,060	0,080	0,100	0,120	0,140	0,160	0,180	0,200	0,220	0,240
250	0,025	0,050	0,075	0,100	0,125	0,150	0,175	0,200	0,225	0,250	0,275	0,300
300	0,030	0,060	0,090	0,120	0,150	0,180	0,210	0,240	0,270	0,300	0,330	0,360
350	0,035	0,070	0,105	0,140	0,175	0,210	0,245	0,280	0,315	0,350	0,385	0,420
400	0,040	0,080	0,120	0,160	0,200	0,240	0,280	0,320	0,360	0,400	0,440	0,480
450	0,045	0,090	0,135	0,180	0,225	0,270	0,315	0,360	0,405	0,450	0,495	0,540
500	0,050	0,100	0,150	0,200	0,250	0,300	0,350	0,400	0,450	0,500	0,550	0,600
550	0,055	0,110	0,165	0,220	0,275	0,330	0,385	0,440	0,495	0,550	0,605	0,660
600	0,060	0,120	0,180	0,240	0,300	0,360	0,420	0,480	0,540	0,600	0,660	0,720
650	0,065	0,130	0,195	0,260	0,325	0,390	0,455	0,520	0,585	0,650	0,715	0,780
700	0,070	0,140	0,210	0,280	0,350	0,420	0,490	0,560	0,630	0,700	0,770	0,840
750	0,075	0,150	0,225	0,300	0,375	0,450	0,525	0,600	0,675	0,750	0,825	0,900
800	0,080	0,160	0,240	0,320	0,400	0,480	0,560	0,640	0,720	0,800	0,880	0,960
850	0,085	0,170	0,255	0,340	0,425	0,510	0,595	0,680	0,765	0,850	0,935	1,020
900	0,090	0,180	0,270	0,360	0,450	0,540	0,630	0,720	0,810	0,900	0,990	1,080
950	0,095	0,190	0,285	0,380	0,475	0,570	0,665	0,760	0,855	0,950	1,045	1,140
1000	0,100	0,200	0,300	0,400	0,500	0,600	0,700	0,800	0,900	1,000	1,100	1,200



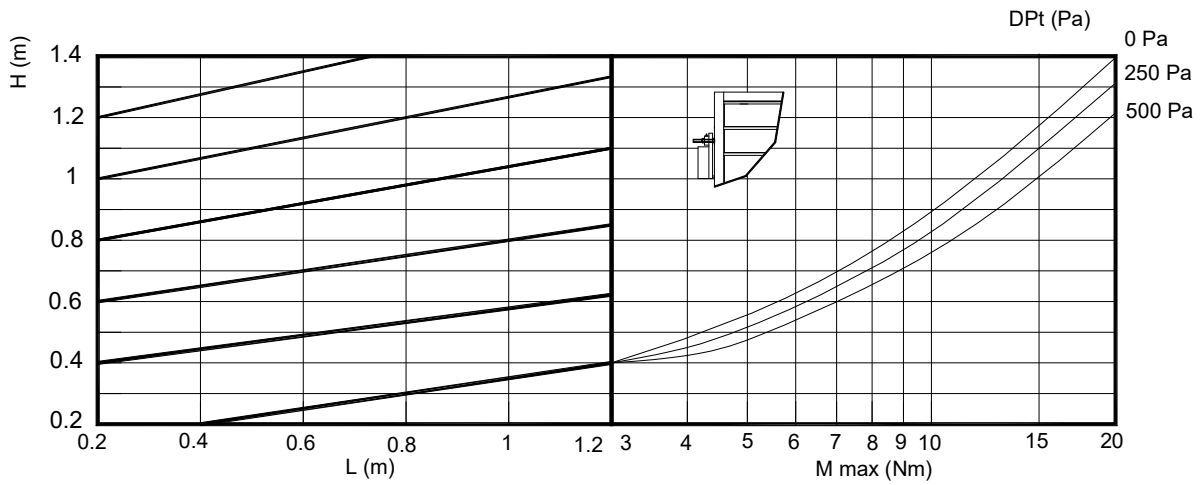
SQR SERIES

VELOCITA DI SEZIONE, PERDITA DI CARICO, POTENZA SONORA



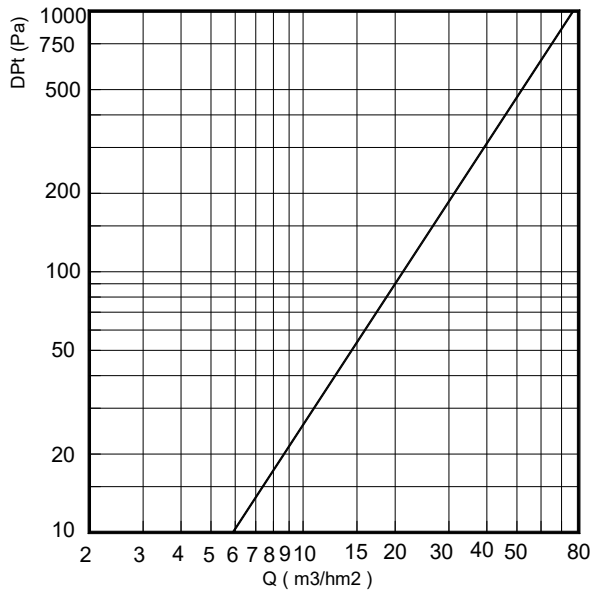
SQR SERIES

AVVIAMENTO



SQR-EH

FUGHE

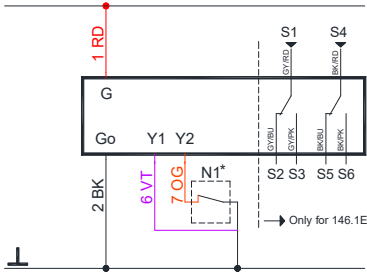


SIEMENS Wiring diagrams

ON/OFF – 3P CONTROL.

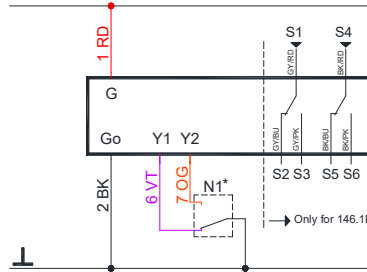
GDB / GLB 14..1E
Open-close, Single wire control

AC 24 V ~
DC 24 V ... 48 V ...



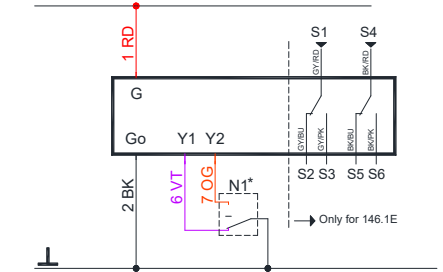
GDB / GLB 14..1E
Open-close, Two wire control

AC 24 V ~
DC 24 V ... 48 V ...



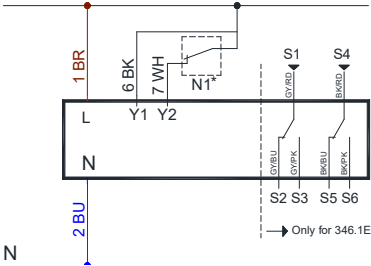
GDB / GLB 14..1E
GEB 13..1E
Three-position control

AC 24 V ~
DC 24 V ... 48 V ...



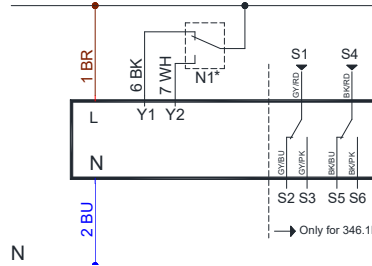
GDB / GLB 34..1E
Open-close, Single wire control

AC 100 ... 240 V ~



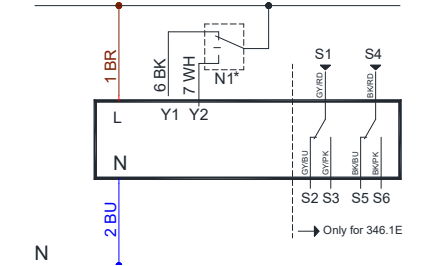
GDB / GLB 34..1E
Open-close, Two wire control

AC 100 ... 240 V ~



GDB / GLB 34..1E
GEB 33..1E
Three-position control

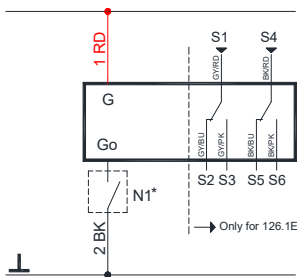
AC 100 ... 240 V ~



SPRING RETURN - ON/OFF – Two-position control

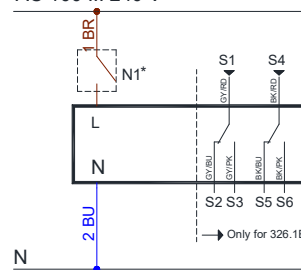
GMA 121.1E
Two-position control

AC 24 V ~
DC 24 V ... 48 V ...



GMA 321.1E
Two-position control

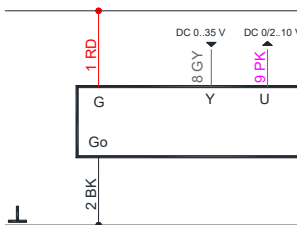
AC 100 ... 240 V ~



MODULATING control 0-10 V

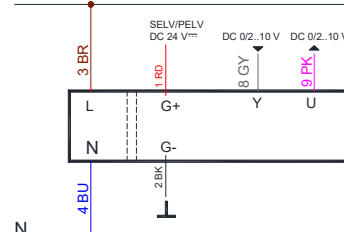
GDB / GLB / GEB 16..1E
Modulating control

AC 24 V ~
DC 24 V ... 48 V ...



GDB / GLB 36..1E
Modulating control

AC 100 ... 240 V ~



N1*. Accessory control. See wiring diagrams accessories.

Wiring	Code	N°	Color	Description
Actuators AC 24 V~ DC 24..48V	G	1	RD Red	System potential 24 AC/DC
	G0	2	BK Black	System Neutral
	Y1	6	VT Purple	Positioning AC/DC 0V. cw
	Y2	7	OG Orange	Positioning AC/DC 0V. ccw
	Y	8	GY Grey	Signal in (0-10V)
Actuators AC 230 V~	U	9	PK Pink	Signal out (0-10 V)
	L	3	BR Brown	Line 100 .. 240 AC
	N	4	BU Blue	Neutral conductor
	Y1	6	BK Black	Positioning AC 230V. cw
	Y2	7	WH White	Positioning AC 230V. ccw
Auxiliary contacts	G+	1	RD Red	Potential aux. 24 AC/DC
	G-	2	BK Black	Neutral aux. 24 AC/DC
	Y	8	GY Grey	Signal in (0-10V)
	U	9	PK Pink	Signal out (0-10 V)
	Q11	S1	GY/RD	Contact NC switch A
Q12	S2	GY/BU	Contact NC switch A	
Q14	S3	GY/PK	Contact NO switch A	
Q21	S4	BK/RD	Contact NO switch B	
Q22	S5	BK/BU	Contact NC switch B	
Q24	S6	BK/PK	Contact NO switch B	

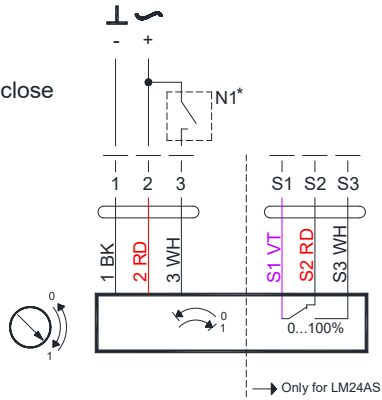
This information is provided by way of indication.
Consult the manufacturer catalogue for all updated
documentation.

<https://www.buildingtechnologies.siemens.com/bt/global/en/products/HVAC-Products/Damper-actuators/Actuators-for-HVAC-applications/Pages/Actuators-for-HVAC-applications-default.aspx>

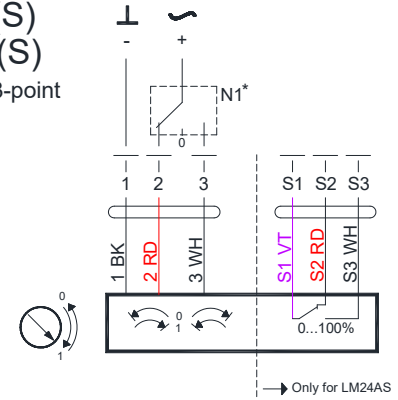
BELIMO Wiring diagrams

ON/OFF – 3P CONTROL.

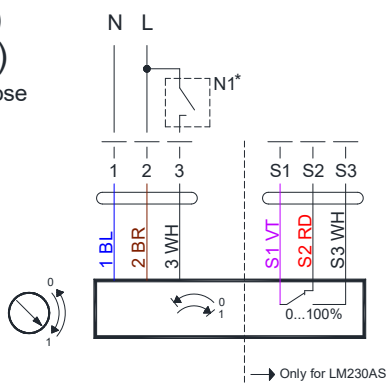
LM-24A..(S)
NM-24A..(S)
AC/DC 24 V, Open-close



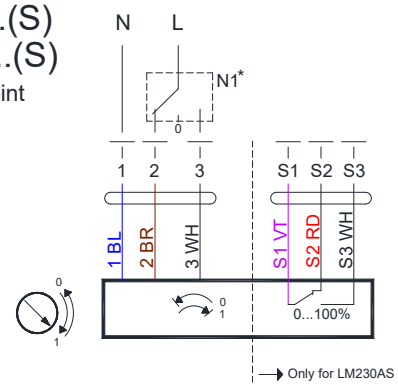
LM-24A..(S)
NM-24A..(S)
AC/DC 24 V, 3-point



LM-230A..(S)
NM-230A..(S)
AC 230 V, Open-close

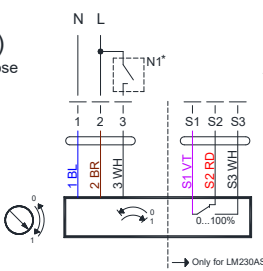


LM-230A..(S)
NM-230A..(S)
AC 230V, 3-point

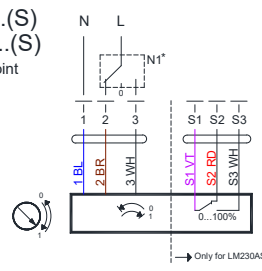


SPRING RETURN - ON/OFF – Two-position control

LM-230A..(S)
NM-230A..(S)
AC 230 V, Open-close



LM-230A..(S)
NM-230A..(S)
AC 230V, 3-point



N1*. Accessory control. See wiring diagrams accessories.

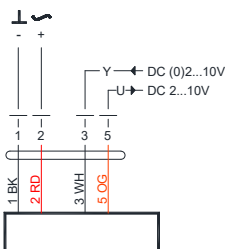
Wiring	Code	N°	Color	Description
Actuators Open-close AC 24 V~ DC 24..48V	-	1	BK Black	System Neutral
	+	2	RD Red	System potential 24 AC/DC
		3	WH White	Positioning AC/DC 0V.
Actuators modulating AC-DC 24 V AC 230V	-	1	BK Black	System Neutral
	+	2	RD Red	System potential 24 AC/DC
		3	WH White	Signal in (0) 2-10V
		5	OG Orange	Signal out 2-10V
Actuators AC 230 V~	L	1	BU Blue	Line 100 .. 240 AC
	N	2	BR Brown	Neutral conductor
	G+	1	BK Black	Neutral aux. 24 AC/DC
	G-	2	RD Red	SG..24
	Y	3	WH White	Signal in (0-10V)
Auxiliary contacts	S1	S1	VT Violet	Input switch A
	S2	S2	RD Red	Contact NC switch A
	S3	S3	WH White	Contact NO switch A

This information is provided by way of indication.
Consult the manufacturer catalogue for all updated
documentation.

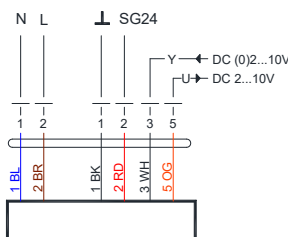
<http://www.belimo.ch/CH/EN/PDF/index.cfm>

MODULATING control 0-10 V

LM24A-SR
NM24A-SR
AC/DC 24 V, modulating



LM230A-SR
NM230A-SR
AC 230 V, Modulating

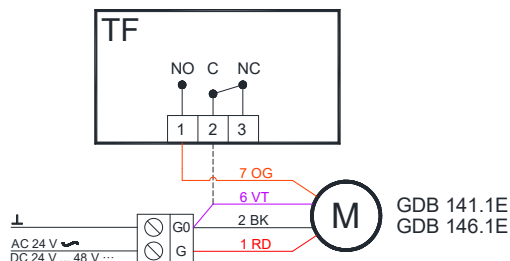


TF Wiring diagrams

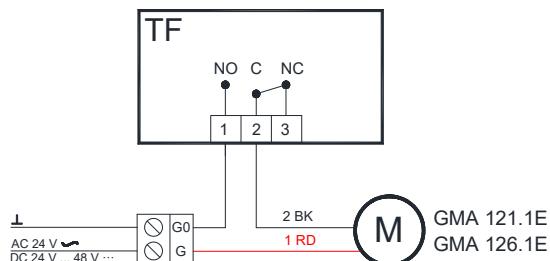
TF + SIEMENS actuators

AC/DC 24 V - ON/ OFF control

GDB/GLB 141/146.1E

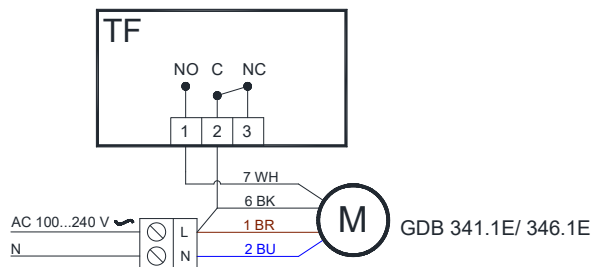


GMA 121/126.1E

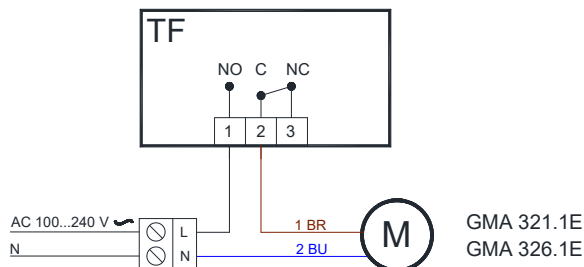


AC 230 V - ON/ OFF control

GDB/ GLB 341/346.1E



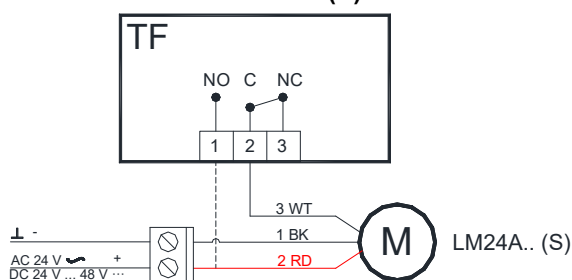
GMA 321/326.1E



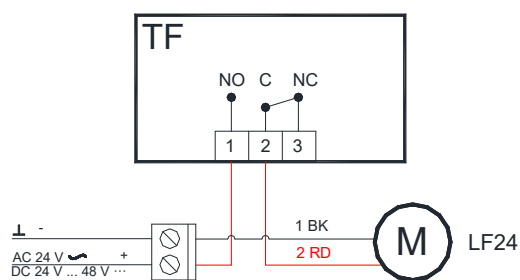
TF + BELIMO actuators

AC/DC 24 V - ON/ OFF control

LM/NM-24A ..(S)

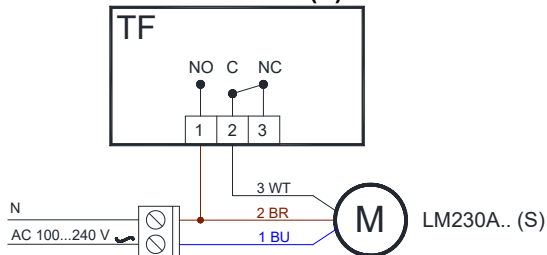


LF-24

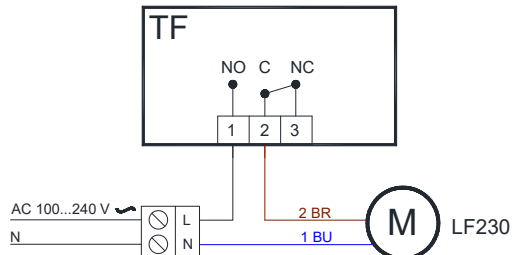


AC 230 V - ON/ OFF control

LM/NM-230A ..(S)



LF-230 / NFA

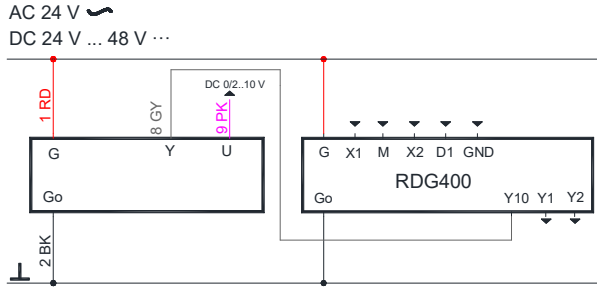


RDG400 Wiring diagrams

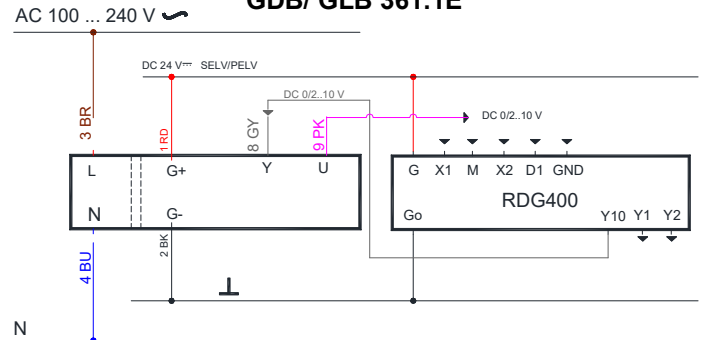
RDG 400 + SIEMENS actuators

Modulating control + manual changeover

GDB/GLB 161.1E



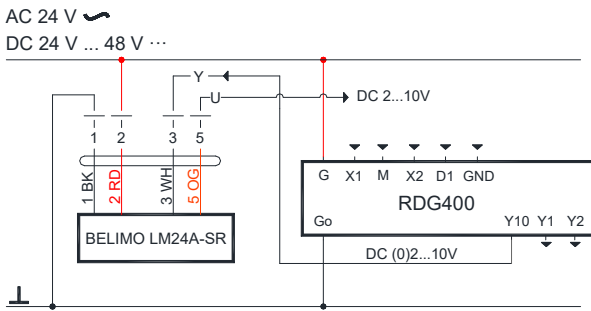
GDB/ GLB 361.1E



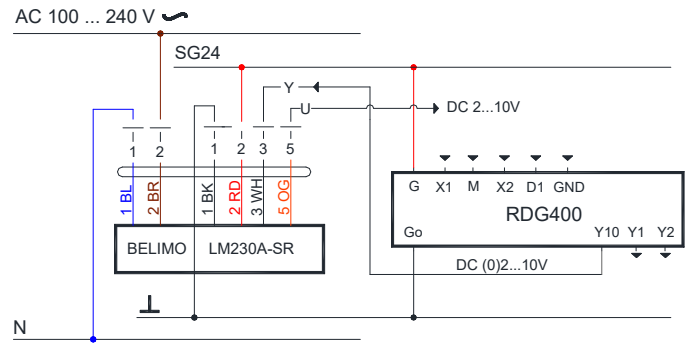
RDG 400 + BELIMO actuators

Modulating control + manual changeover

LM/ NM-24A -SR



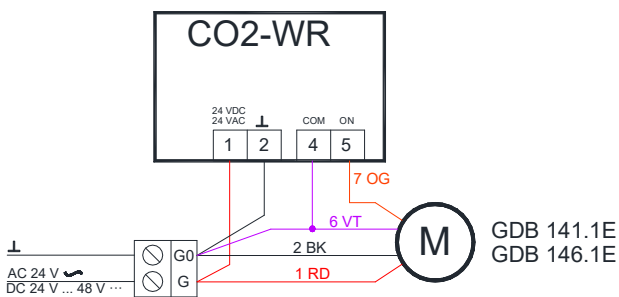
LM/NM230A-SR



CO2-WR Wiring diagrams

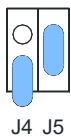
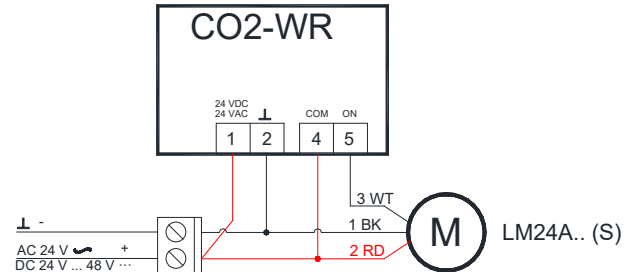
CO2-WR+ SIEMENS GDB/GLB 141.1E

On/OFF control



CO2-WR+ BELIMO LM/NM24A.. (S)

On/OFF control

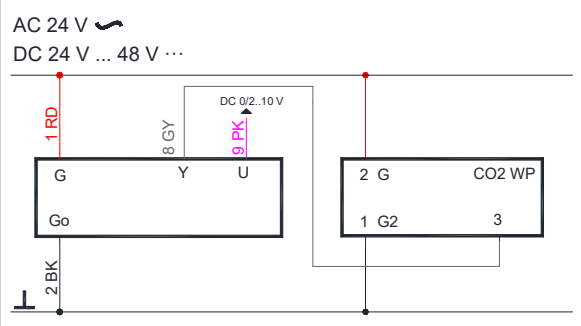


	J4	J5	Relay
800 ppm	disconnected	disconnected	CO2 > 900 ppm. Relay ON; CO2 < 700 ppm Relay OFF
1000 ppm	connected	disconnected	CO2 > 1100 ppm. Relay ON; CO2 < 900 ppm Relay OFF
1200 ppm (default)	disconnected	connected	CO2 > 1200 ppm. Relay ON; CO2 < 1100 ppm Relay OFF
1400 ppm	connected	connected	CO2 > 1500 ppm. Relay ON; CO2 < 1300 ppm Relay OFF

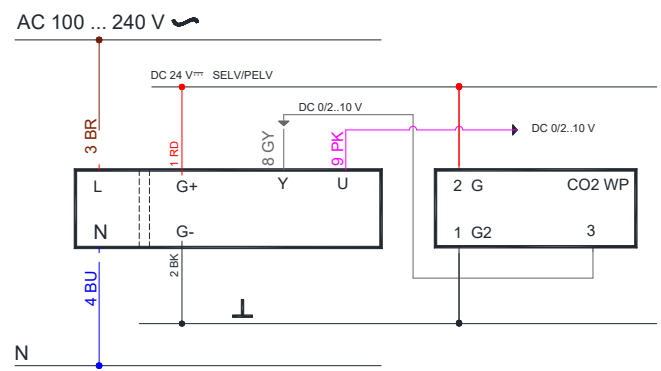
CO2-WP Wiring diagrams

CO2-WP + SIEMENS actuators

AC/DC 24 V – Modulating control GDB/GLB 161.1E

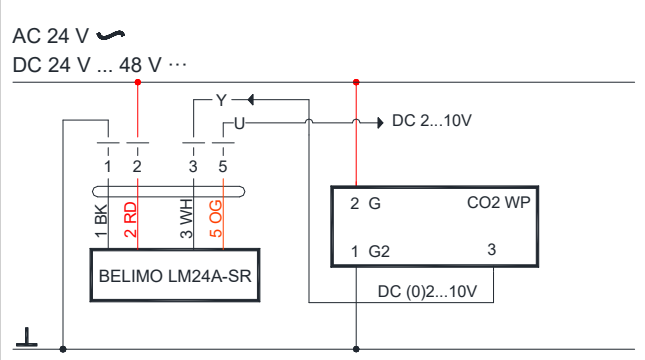


AC 230 V – Modulating control GDB/GLB 361.1E



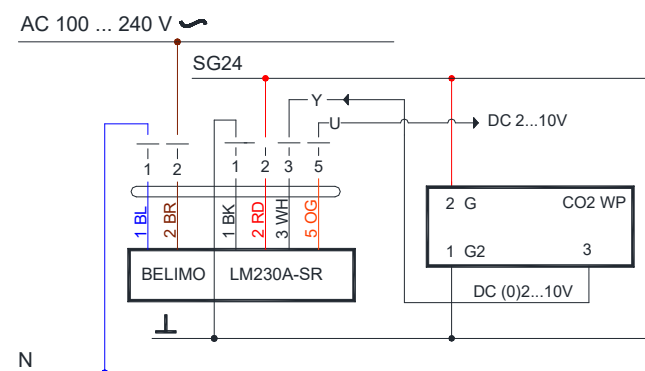
CO2-WP + BELIMO actuators

AC/DC 24 V – Modulating control LM/NM 24A-SR

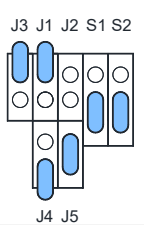


AC 230 V – Modulating control

LM/ NM 230A - SR



CO2-WP Setting



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

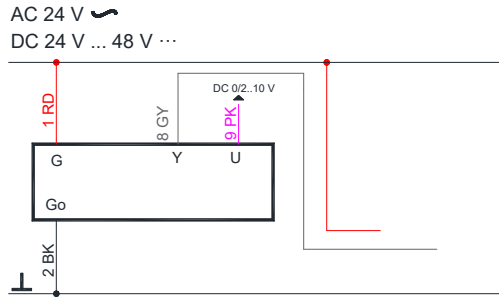
	J3
PID out put (default)	disconnected
Linear output	connected

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

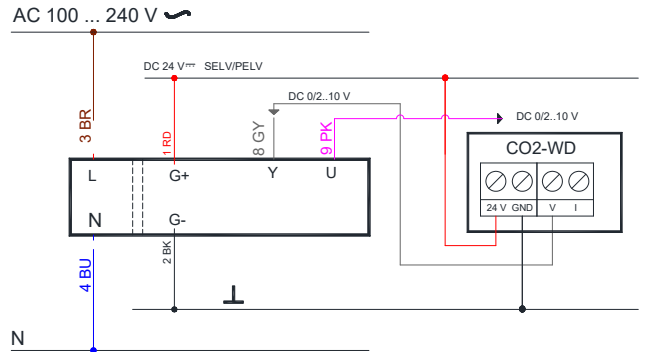
CO2-D Wiring diagrams

CO2-WD + SIEMENS actuators

AC/DC 24 V – Modulating control
GDB/GLB 161.1E

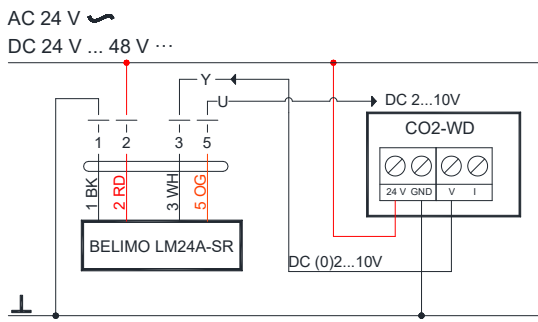


AC 230 V – Modulating control
GDB/GLB 361.1E

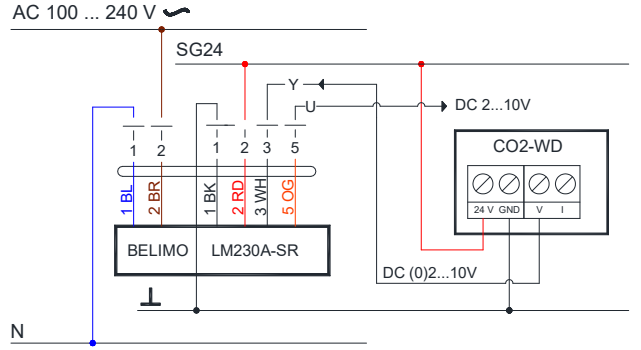


CO2-WD + BELIMO actuators

AC/DC 24 V – Modulating control
LM/NM24A-SR



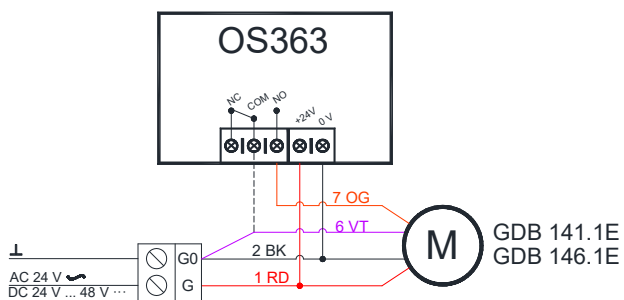
AC 230 V – Modulating control
LM/NM230A - SR



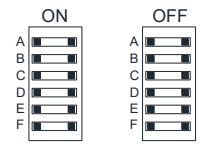
OS-360 Wiring diagrams

OS360+ SIEMENS GDB/GLB 141.1E

On/OFF control

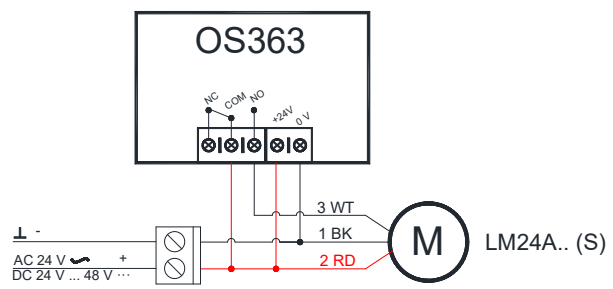


DELAY SETTING



OS360+BELIMO LM/NM 24A.. (S)

On/OFF control



	A	B	C	D	E	F
ON	0 sec	10 sec	30 sec	1 min	5 min	10 min
OFF	10 sec	1 min	5 min	10 min	20 min	30 min