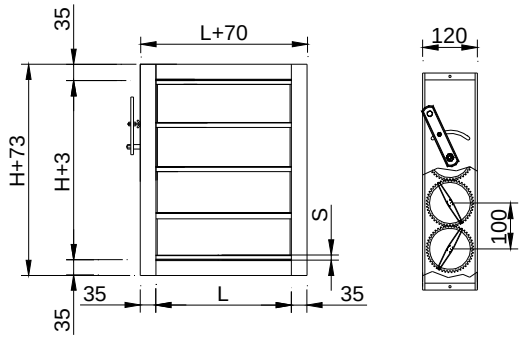
SQR compuertas de regulación para conducto rectangular

MADEL®

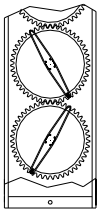
Las compuertas de la serie **SQR** han sido diseñadas para su utilización en la regulación del caudal y de la presión, en instalaciones de aire acondicionado, ventilación y calefacción.
Aletas opuestas de 100mm.

SQR-...

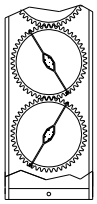


H	S
100...1000	10
150...950	50

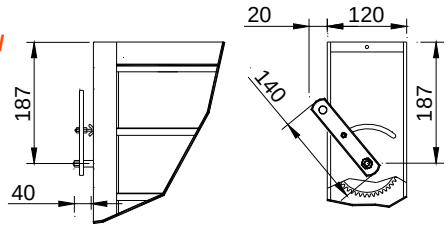
SQR-E...



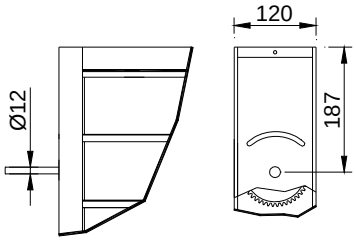
SQR-B...



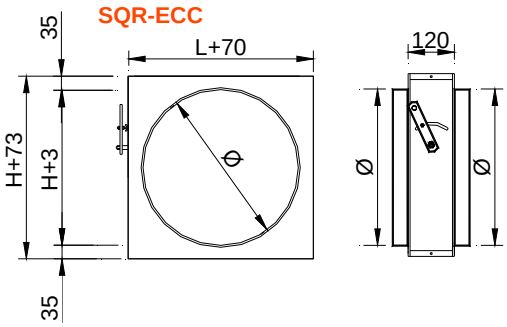
SQR-.../MA/



SQR-.../MO/



SQR-ECC



CLASIFICACIÓN

SQR-EH Compuerta de aletas de perfil romboidal, paralelas al lado mayor (cota L).

SQR-EV Compuerta de aletas de perfil romboidal, paralelas al lado menor (cota H).

SQR-BH Compuerta de aletas de perfil plano, paralelas al lado mayor (cota L).

SQR-BV Compuerta de aletas de perfil plano, paralelas al lado menor (cota H).

SQR-ECC Compuerta cuadrada de aletas de perfil romboidal y conexiones circulares.

SQR-BCC Compuerta cuadrada de aletas de perfil plano y conexiones circulares.

.../MA/ Compuerta con mando manual.

.../MO/ Compuerta con eje para motorizar.

MATERIAL

Marco de aluminio extruído en forma de “U”.
Lamas de forma aerodinámica de aluminio extruído con una junta de goma en los bordes.
Eje de acero galvanizado.
Placa de protección del sistema de transmisión en acero galvanizado.
Casquillos de acetal de alta resistencia.
Transmisión por engranajes de poliamida-6, situados en la parte exterior de la compuerta, para evitar suciedad en la transmisión.

Siemens GDB/GLB

Siemens GEB/GMA

Belimo LM/NM

Belimo LF/NF

ACCESSORIOS - SERVOMOTORES

Servomotores ON/OFF

GDB141.1E On/Off 24 VAC/VDC 5N Siemens actuator.
GDB341.1E On/Off 100... 230 VAC Siemens actuator.
GLB141.1E On/Off 24 VAC/VDC Siemens actuator.
GLB341.1E On/Off 100...230 VAC Siemens actuator.
GEB131.1E On/Off 24 VAC 15N Siemens actuator.
GEB331.1E On/Off 230 VAC 15N Siemens actuator.

LM24A On/Off 24 VAC/VDC 5N Belimo actuator.
LM230A On/Off 230 VAC 5N Belimo actuator.
NM24A On/Off 24 VAC/VDC 10N Belimo actuator.
NM230A On/Off 230 VAC 10N Belimo actuator.

Servomotores ON/OFF con finales de carrera

GDB146.1E On/Off 24 VAC/VDV 5N 2FC Siemens actuator.
GDB346.1E On/Off 100...230 VAC 5N 2FC Siemens actuator.
GLB146.1E On/Off 24 VAC/VDC 10N 2FC Siemens actuator.
GLB346.1E On/Off 100...230 VAC 10N 2FC Siemens actuator.
GEB136.1E On/Off 24 VAC 15N 2FC Siemens actuator.
GEB336.1E On/Off 230 VAC 15N 2FC Siemens actuator.

LM24A-S On/Off 24 VAC/VDC 5N 1FC Belimo actuator (*)
LM230A-S On/Off 5N 1FC Belimo actuator (*)
NM24A-S On/Off 24 VAC/VDC 10N 1FC Belimo actuator (*)
NM230A-S On/Off 10N (191,82 €) 1 FC Belimo actuator (*)
** Servomotores Belimo con 1 final de carrera, para 2 contactos consultar.*

Servomotores ON/OFF con muelle de retorno

GMA121.1E On/Off 24 VAC/VDC 7N Siemens actuator.
GMA321.1E On/Off 230 VAC 7N Siemens actuator.

LF-24 On/Off 24 VAC/VDC 4N Belimo actuator.
LF-230 On/Off 230 VAC 4N Belimo actuator.
NFA On/Off 24-230 VAC On/Off 10N Belimo actuator.

Servomotores proporcionales

GDB161.1E 24 VAC 5N Siemens actuator.
GLB161.1E 24 VAC 10N Siemens actuator.
GEB161.1E 24 VAC 15N Siemens actuator.

LM24A-SR 24 VAC/VDC 5N Belimo actuator.
LM230A-SR 230 VAC 5N Belimo actuator.
NM24A-SR 24 VAC/VDC 10N Belimo actuator.
NM230A-SR 230 VAC 10N Belimo actuator.

Servomotores con comunicaciones

Consultar los modelos de actuadores con protocolo s de comunicaciones **Modbus / KNX / LONWorks y Bacnet.**

SELECCIÓN DE POTÉNCIA DE SERVOMOTORES

L x H mm	servo N	L x H mm	servo N	L x H mm	servo 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 mm**	servo N
2000x200	5 N	1400x500	5 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

TF

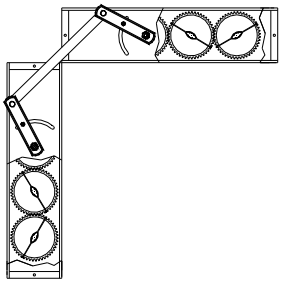
RDG 400

CO2-WP
CO2-WR

CO2-D

OS-360

FC



ACCESORIOS DE CONTROL

TF Termostato con cables, de cambio de modo frío/ calor manual, para el control de la temperatura de 1 zona con compuertas con servomotor On/Off.

RDG 400 Controlador de temperatura ambiente proporcional Siemens, 0 ... 10 vcc aliment. 24VAC con display digital retroiluminado, selector confort / eco / parada, para servomotores de compuertas proporcionales.

CO2-WP Sonda / control de ambiente 24 vdc-vac. Visualización de lectura mediante LED. Salidas 0-10Vdc. Setpoint 600-800 -1000 ppm (Sondas de CO2 proporcionales, requieren servomotor proporcional)

CO2-D Sonda para conducto 24 vdc-vac con una salida 0-10Vdc, IP54 (Sondas de CO2 proporcionales, requieren servomotor proporcional)

CO2-WR Sonda ambiente de pared 24 vdc-vac. Visualización de lectura LED. Salida digital (relé 5A) Setpoint 800 - 1000 -1200 (sondas de CO2 con relé, requieren servomotor ON / OFF)

OS-360 Sensor de presencia por movimiento omnidireccional para techo, para el control de elementos terminales HVAC. Alimentación 24 Vac / Vdc. Salida de contacto conmutado parametrizable.

ACCESORIOS DE MONTAJE

FC Kit free-cooling para montar dos compuertas a 90º.

SISTEMES DE FIJACIÓN

1) El marco de la compuerta en forma de brida está diseñado para remachar o herrar en conductos u otras superficies planas.

CR Cuello de conexión recto.

ACABADOS

Aluminio natural.

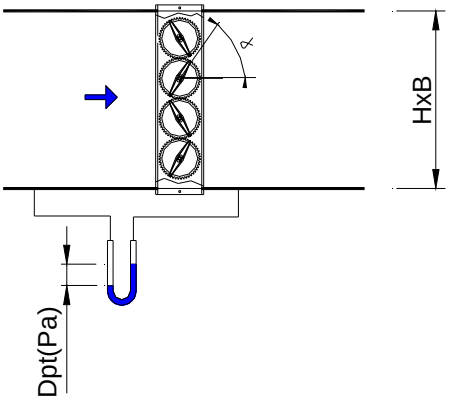
TEXTO DE PRESCRIPCIÓN

Sum. y col. de compuerta de regulación de caudal para conducto rectangular y con mando manual serie **SQR-EH/MA/ LxH**. Construidas en aluminio acabado natural y engranajes de poliamida. Con elementos necesarios para montaje. Marca **MADEL**.

SQR SERIES

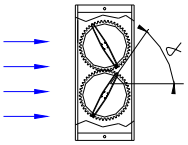
BxH (m2) (A face)

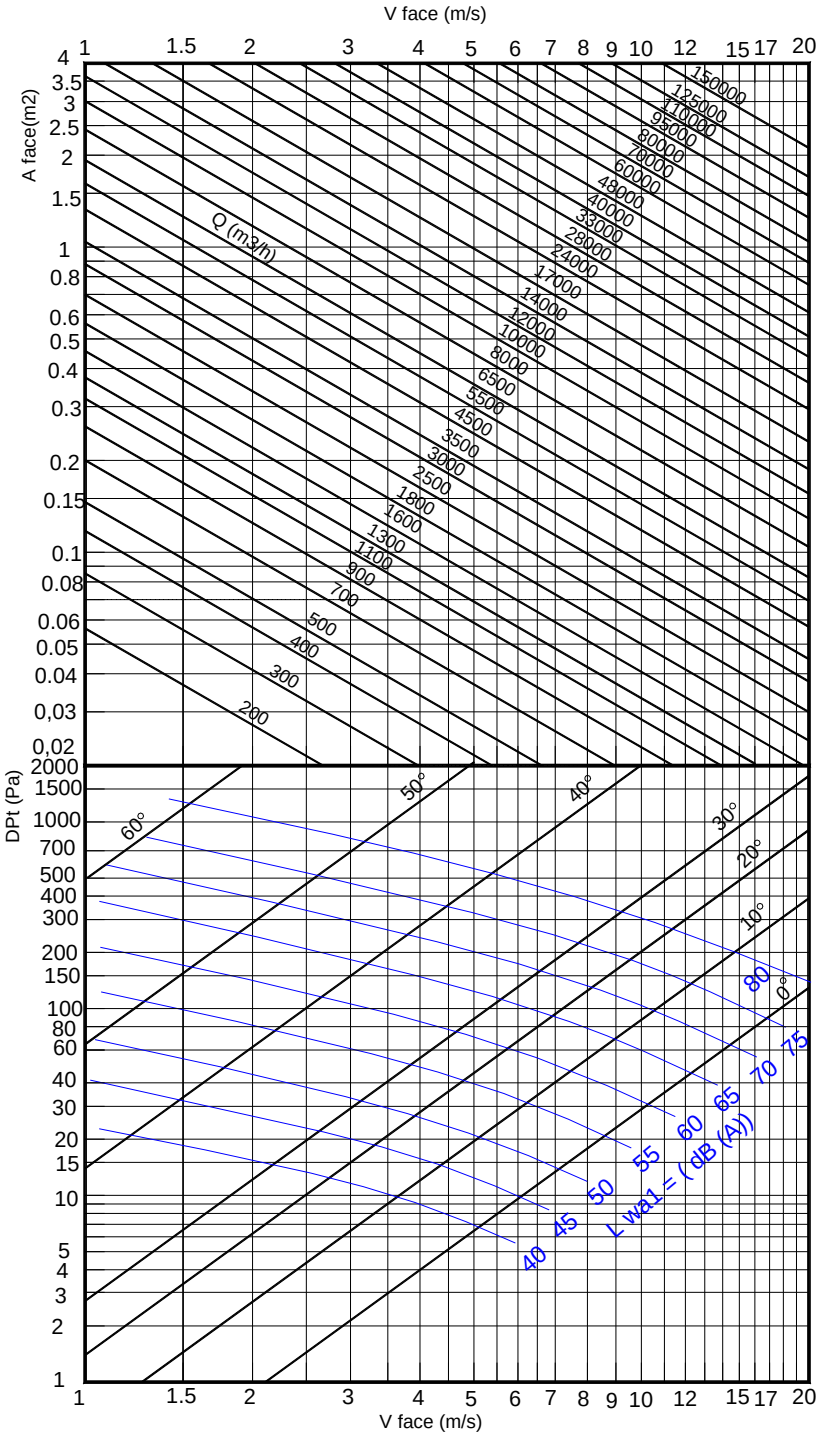
H \ B	100	200	300	400	500	600	700	800	900	1000	1100	1200
100	0,01	0,02	0,03	0,04	0,05	0,06	0,07	0,08	0,09	0,1	0,11	0,12
150	0,01	0,03	0,04	0,06	0,07	0,09	0,1	0,12	0,13	0,15	0,16	0,18
200	0,02	0,04	0,06	0,08	0,1	0,12	0,14	0,16	0,18	0,2	0,22	0,24
250	0,02	0,05	0,07	0,1	0,12	0,15	0,17	0,2	0,22	0,25	0,27	0,3
300	0,03	0,06	0,09	0,12	0,15	0,18	0,21	0,24	0,27	0,3	0,33	0,36
350	0,03	0,07	0,1	0,14	0,17	0,21	0,24	0,28	0,31	0,35	0,38	0,42
400	0,04	0,08	0,12	0,16	0,2	0,24	0,28	0,32	0,36	0,4	0,44	0,48
450	0,04	0,09	0,13	0,18	0,22	0,27	0,31	0,36	0,4	0,45	0,49	0,54
500	0,05	0,1	0,15	0,2	0,25	0,3	0,35	0,4	0,45	0,5	0,55	0,6
550	0,05	0,11	0,16	0,22	0,27	0,33	0,38	0,44	0,49	0,55	0,6	0,66
600	0,06	0,12	0,18	0,24	0,3	0,36	0,42	0,48	0,54	0,6	0,66	0,72
650	0,06	0,13	0,19	0,26	0,32	0,39	0,45	0,52	0,58	0,65	0,71	0,78
700	0,07	0,14	0,21	0,28	0,35	0,42	0,49	0,56	0,63	0,7	0,77	0,84
750	0,07	0,15	0,22	0,3	0,37	0,45	0,52	0,6	0,67	0,75	0,82	0,9
800	0,08	0,16	0,24	0,32	0,4	0,48	0,56	0,64	0,72	0,8	0,88	0,96
850	0,08	0,17	0,25	0,34	0,42	0,51	0,59	0,68	0,76	0,85	0,93	1,02
900	0,09	0,18	0,27	0,36	0,45	0,54	0,63	0,72	0,81	0,9	0,99	1,08
950	0,09	0,19	0,28	0,38	0,47	0,57	0,66	0,76	0,85	0,95	1,04	1,14
1000	0,1	0,2	0,3	0,4	0,5	0,6	0,7	0,80	0,9	1	1,1	1,2



SQR-EH SERIES

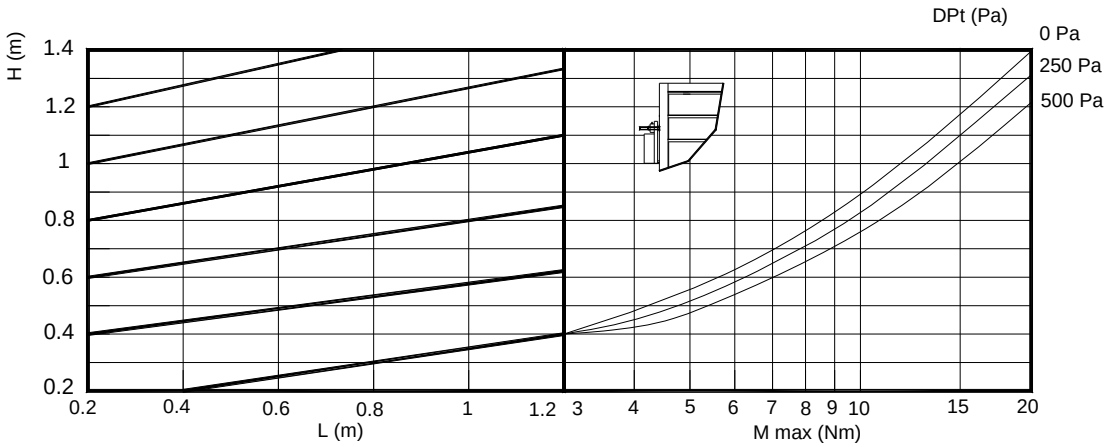
VELOCIDAD EN LA CARA, PERDIDA DE CARGA Y POTENCIA SONORA





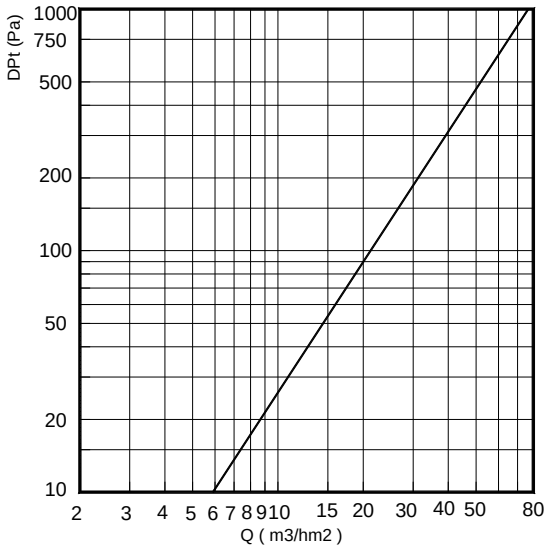
SQR SERIES

PAR DE GIRO.



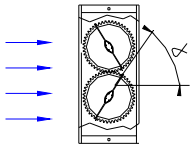
SQR-EH

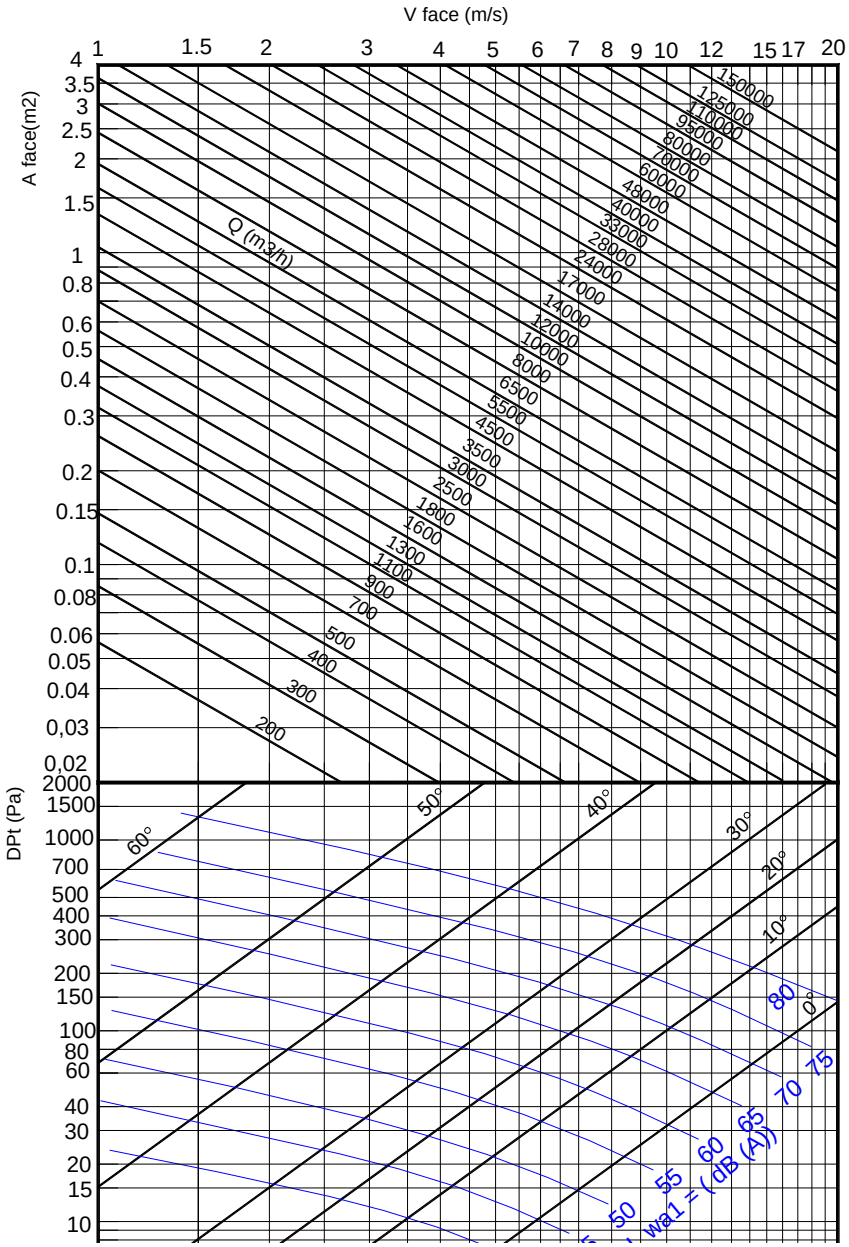
FUGAS.



SQR-BH SERIES

VELOCIDAD EN LA CARA, PERDIDA DE CARGA Y POTENCIA SONORA.



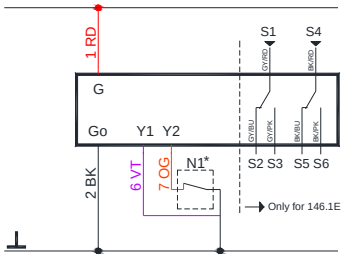


SIEMENS Wiring diagrams

ON/OFF – 3P CONTROL.

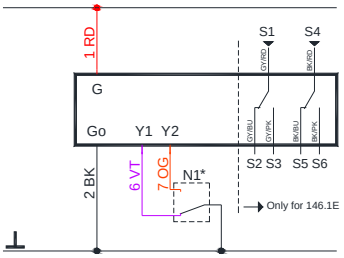
GDB / GLB 14..1E
Open-close, Single wire control

AC 24 V
DC 24 V ... 48 V ⋯



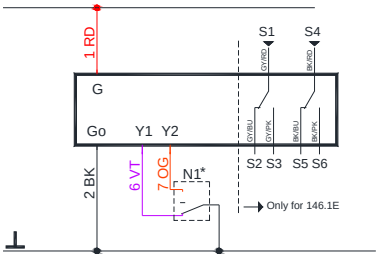
GDB / GLB 14..1E
Open-close, Two wire control

AC 24 V
DC 24 V ... 48 V ⋯



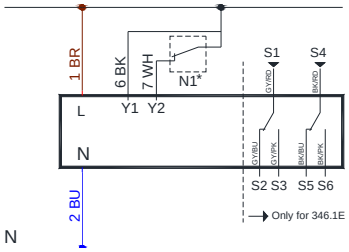
GDB / GLB 14..1E
GEB 13..1E
Three-position control

AC 24 V
DC 24 V ... 48 V ⋯



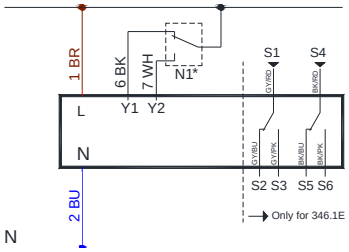
GDB / GLB 34..1E
Open-close, Single wire control

AC 100 ... 240 V



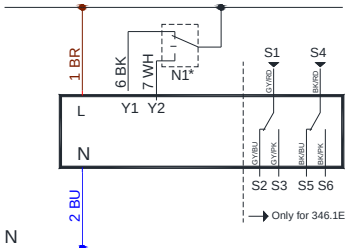
GDB / GLB 34..1E
Open-close, Two wire control

AC 100 ... 240 V



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

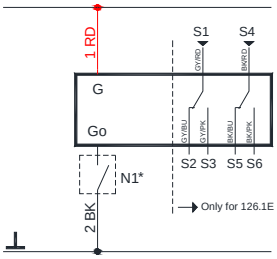
AC 100 ... 240 V



SPRING RETURN - ON/OFF – Two-position control

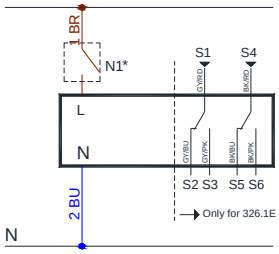
GMA 121.1E
Two-position control

AC 24 V
DC 24 V ... 48 V ⋯



GMA 321.1E
Two-position control

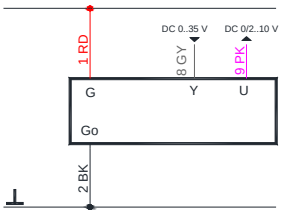
AC 100 ... 240 V



MODULATING control 0-10 V

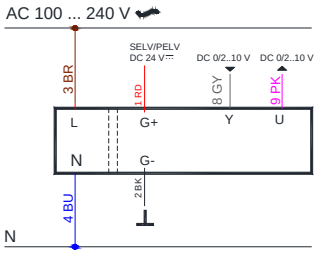
GDB / GLB / GEB 16..1E
Modulating control

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.

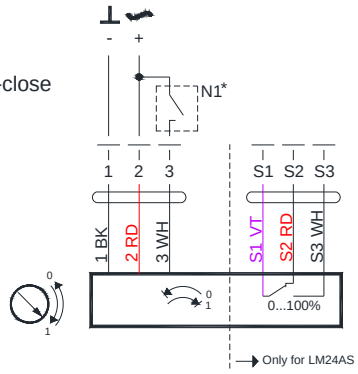
Wiring	Code	Nº	Color	Description
Actuators AC 24 V~ DC 24..48V	G	1	RD Red	System potential 24 AC/DC
	G0	2	BK Black	System Neutral
	Y1	6	VT Purple	Positioning AC/DC 0V. cw
	Y2	7	OG Orange	Positioning AC/DC 0V. ccw
	Y	8	GY Grey	Signal in (0-10V)
	U	9	PK Pink	Signal out (0-10 V)
Actuators AC 230 V~	L	3	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
	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)
Auxiliary contacts	Q11	S1	GY/RD	Input switch A
	Q12	S2	GY/BU	Contact NC switch A
	Q14	S3	GY/PK	Contact NO switch A
	Q21	S4	BK/RD	Input 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.

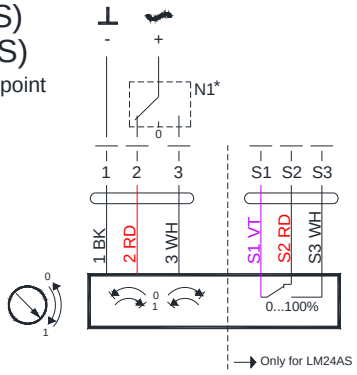
https://www.buildingtechnologies.siemens.com/bt/global/en/products/HVAC-Products/Damper-actuators/Actuators-for-HVAC-applications/Pages/Actuators-for-HVAC-applications-default.aspx

ON/OFF – 3P CONTROL.

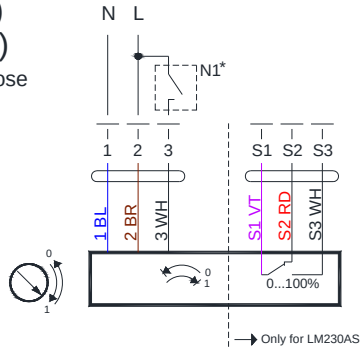
LM-24A..(S)
NM-24A..(S)
AC/DC 24 V, Open-close



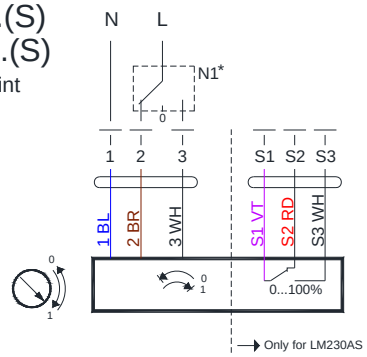
LM-24A..(S)
NM-24A..(S)
AC/DC 24 V, 3-point



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

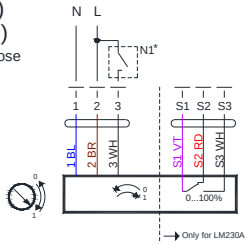


LM-230A..(S)
NM-230A..(S)
AC 230V, 3-point

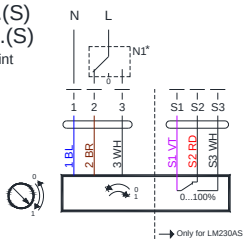


SPRING RETURN - ON/OFF – Two-position control

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

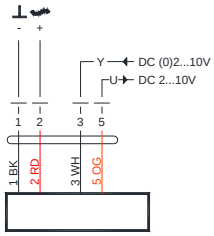


LM-230A..(S)
NM-230A..(S)
AC 230V, 3-point

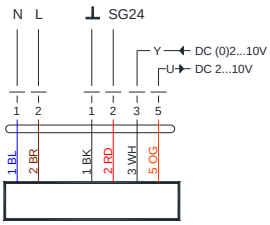


MODULATING control 0-10 V

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



LM230A-SR
NM230A-SR
AC 230 V, Modulating



N1*. Accessory control. See wiring diagrams accessories.

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

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

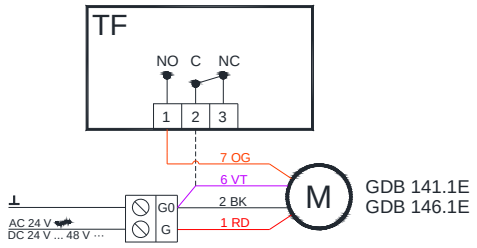
http://www.belimo.ch/CH/EN/PDF/index.cfm

TF Wiring diagrams

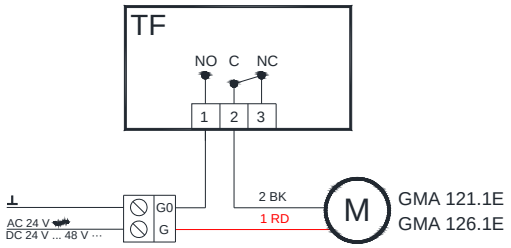
TF + SIEMENS actuators

AC/DC 24 V - ON/ OFF control

GDB/GLB 141/146.1E

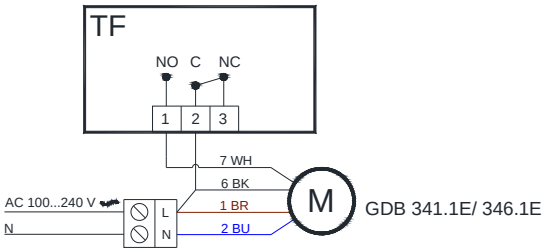


GMA 121/126.1E

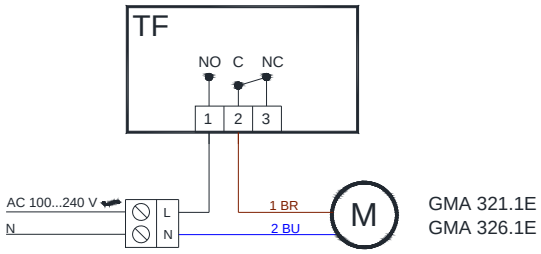


AC 230 V - ON/ OFF control

GDB/ GLB 341/346.1E



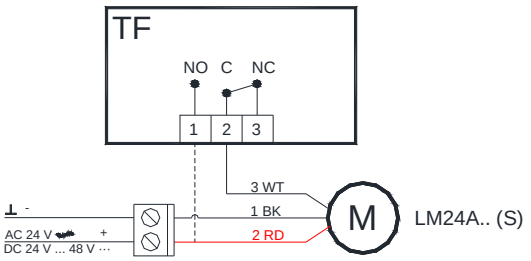
GMA 321/326.1E



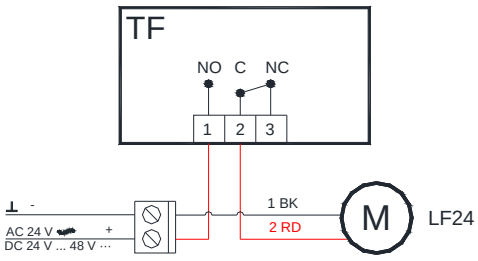
TF + BELIMO actuators

AC/DC 24 V - ON/ OFF control

LM/NM-24A ..(S)

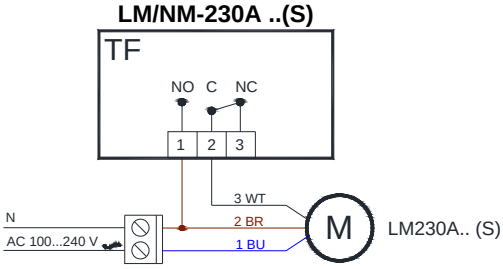


LF-24

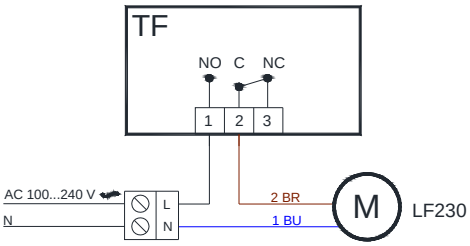


AC 230 V - ON/ OFF control

LM/NM-230A ..(S)



LF-230 / NFA

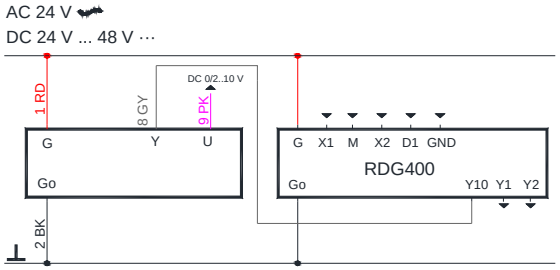


RDG400 Wiring diagrams

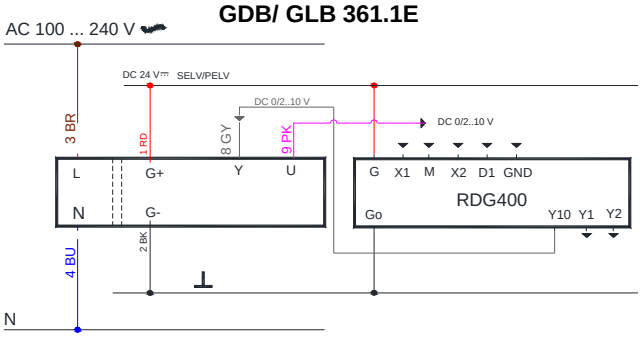
RDG 400 + SIEMENS actuators

Modulating control + manual changeover

GDB/GLB 161.1E



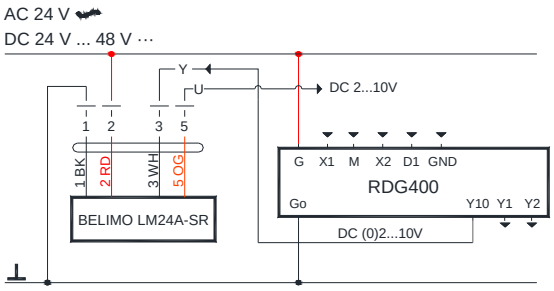
GDB/ GLB 361.1E



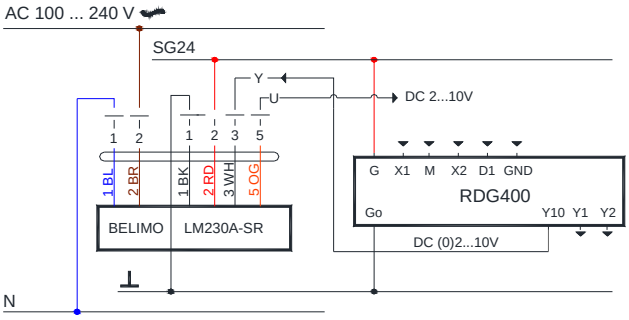
RDG 400 + BELIMO actuators

Modulating control + manual changeover

LM/ NM-24A -SR



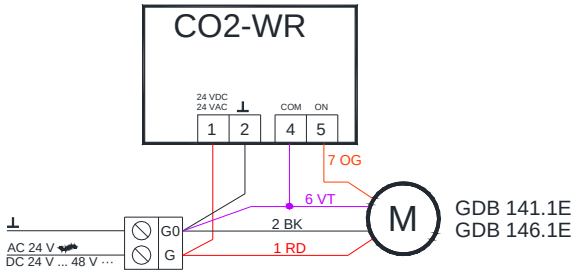
LM/NM230A-SR



CO2-WR Wiring diagrams

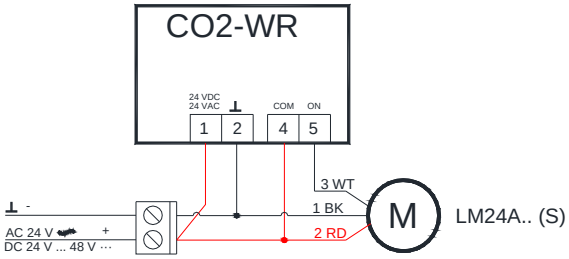
CO2-WR+ SIEMENS GDB/GLB 141.1E

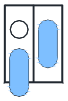
On/OFF control



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

On/OFF control





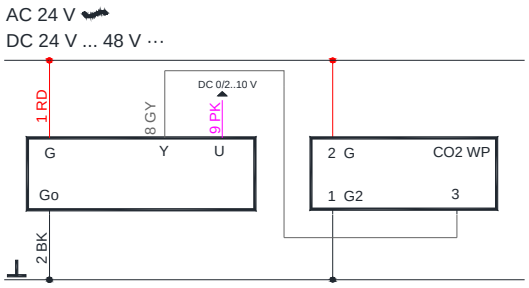
	J4	J5	Relay
800 ppm	disconnected	disconnected	CO2> 900 ppm. Relay ON; CO2 < 700 ppm Relay OFF
1000 ppm	connected	disconnected	CO2> 1100 ppm. Relay ON; CO2 < 900 ppm Relay OFF
1200 ppm (default)	disconnected	connected	CO2> 1200 ppm. Relay ON; CO2 < 1100 ppm Relay OFF
1400 ppm	connected	connected	CO2>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

CO2-WP Wiring diagrams

CO2-WP + SIEMENS actuators

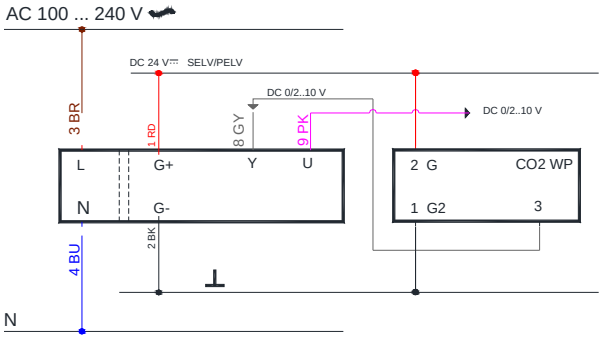
AC/DC 24 V – Modulating control

GDB/GLB 161.1E



AC 230 V – Modulating control

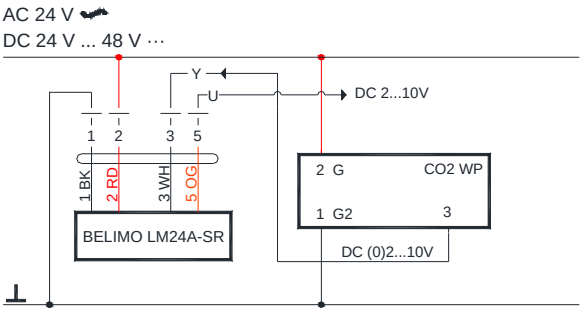
GDB/GLB 361.1E



CO2-WP + BELIMO actuators

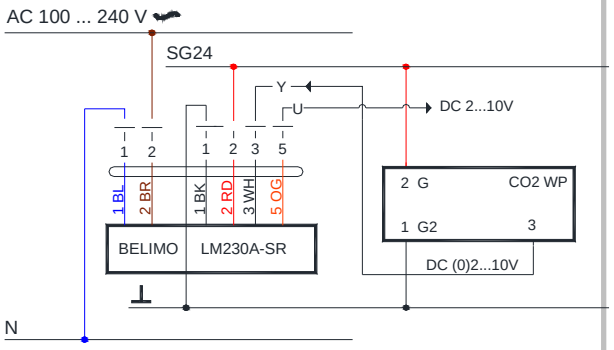
AC/DC 24 V – Modulating control

LM/NM 24A-SR

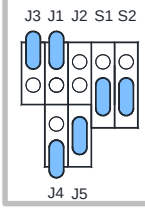


AC 230 V – Modulating control

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

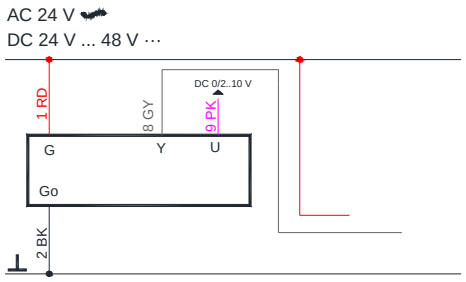
	J4	J5
350 ppm	disconnected	disconnected
500 ppm	connected	disconnected
800 ppm (default)	disconnected	connected
1200 ppm	connected	connected

CO2-D Wiring diagrams

CO2-WD + SIEMENS actuators

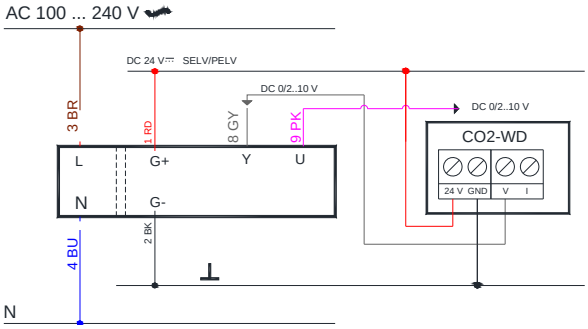
AC/DC 24 V – Modulating control

GDB/GLB 161.1E



AC 230 V – Modulating control

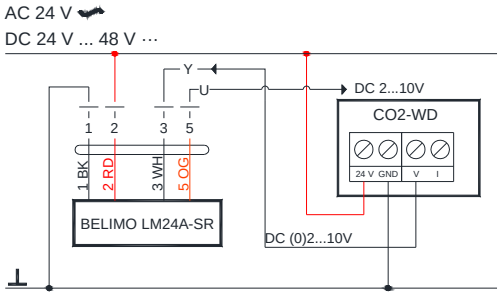
GDB/GLB 361.1E



CO2-WD + BELIMO actuators

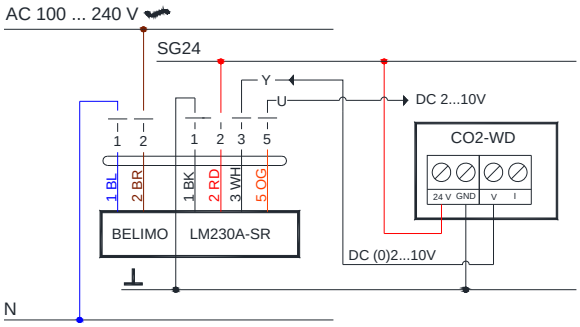
AC/DC 24 V – Modulating control

LM/NM24A-SR



AC 230 V – Modulating control

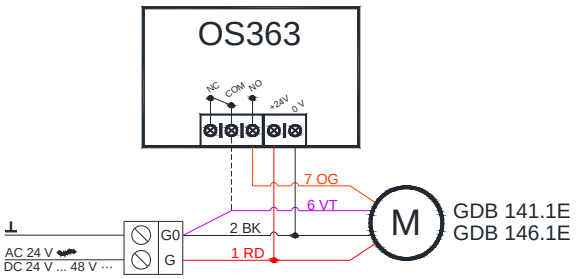
LM/NM230A - SR



OS-360 Wiring diagrams

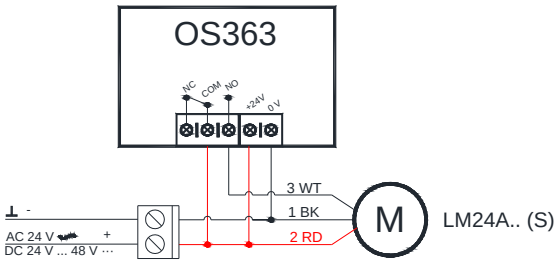
OS360+ SIEMENS GDB/GLB 141.1E

On/OFF control



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

On/OFF control



DELAY SETTING

	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