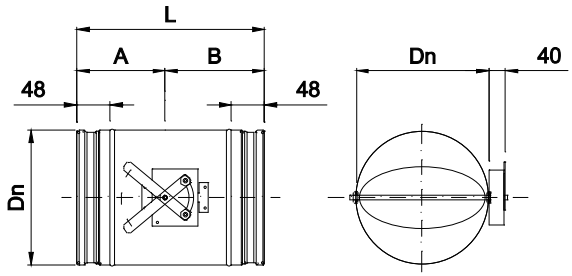
SCC control dampers for circular duct

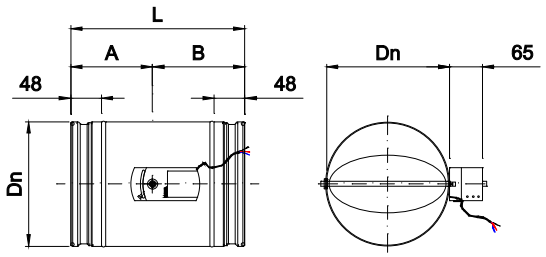
MADEL®

The **SCC** series dampers are designed to be used for altering the flow volume rate and pressure in air-conditioning, ventilation and heating systems. Airtight damper suitable for circular duct mounting.

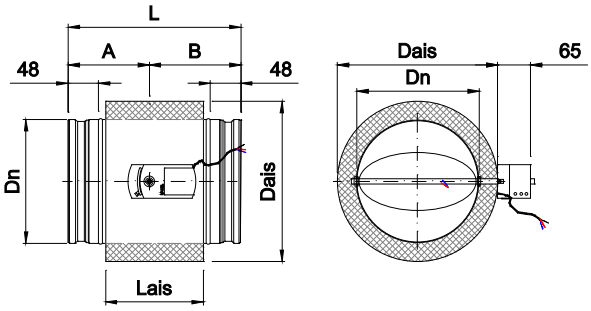
SCC-MA



SCC-MO



SCC-.../AIS/



D	Dn	Dais	L	Lais	A	B
100	98	178	265	150	105	160
125	123	203	265	150	105	160
150	148	228	265	150	105	160
160	158	238	265	150	105	160
200	198	278	295	180	130	165
250	248	328	335	220	145	190
315	313	393	345	230	155	190
355	353	433	400	285	180	220
400	398	433	420	305	190	230

CLASSIFICATION

SCC-R Circular control damper with duct connection according to EN-1506 standard. With rubber gaskets double lip to improve the sealing of the connection.
Airtigh casing according to EN-1751 standard.

100 < D(Ø) < 400 EN-1751 Caising Class C

SCC-E Airtight circular control damper with duct connection according to EN-1506 standard. With rubber gaskets double lip to improve the sealing of the connection.
Airtight casing and blade according to EN-1751 standard.

100 < D(Ø) <125
EN-1751 Caising Class C, Blade 3

150 < D(Ø) <400
EN-1751 Caising Class C, Blade 4

.../MA/ Manual control lever.
.../MO/ Special axle to motorise.
…/SJ/ Without rubber gaskets of connection.
…/AIS/ Thermo-acoustical insulation.

MATERIAL

Casing and blade made from galvanised steel and bearings from rubber. Gasket made from EPDM

Siemens GDB/GLB

Siemens GMA

Belimo LM/NM

Belimo LF/NF

ACCESSORIES - ACTUATORS

ON/OFF actuators

GDB141.1E On/Off 24 VAC/VDC 5N Siemens actuator.
GDB341.1E On/Off 100... 230 VAC 5N Siemens actuator.

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

ON/OFF actuators with switches device

GDB146.1E On/Off 24 VAC/VDV 5N 2FC Siemens actuator.
GDB346.1E On/Off 100...230 VAC 5N 2FC Siemens actuator.

LM24A-S On/Off 24 VAC/VDC 5N 1FC Belimo actuator (*)
LM230A-S On/Off 5N 1FC Belimo actuator (*)
** Belimo actuators with end of course swicth for 2 contacts. consultar.*

ON/OFF actuators with spring return

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.

Proportional actuators

GDB161.1E 24 VAC/VDC 5N Siemens actuator.

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

Communicating actuators

Consult actuator models with **Modbus / KNX / LONWorks** and **Bacnet** communications protocols.

TF

RDG 400

CO2-WP
CO2-WR

CO2-D

OS-360

TEMPERATURE CONTROL

TF Thermostat with cables for temperature control of 1 zone, using On/Off actuator. Manual seasonal change over.

RDG 400 Proportional temperature controller ambiance 0..10Vcc power supply 24vac with backlit digital display, selector comfort eco/off; for proportional damper actuators.

CO2-WP 24vdc vac wall-mounting detector .With LED indicator. Analog output 0-10Vdc. Setpoint 600 - 800 -1000 ppm (proportional actuator required)

CO2-D Sensor for duct mounting 24vdc-vac with an output 0-10Vdc IP54 (proportional actuator required)

CO2-WR CO2 Detector with relay output (ON/OFF actuator required). Wall-mounting . With LED indicator. Digital output (relay 5A) Setpoint 800 - 1000 -1200.

OS-360 Occupancy sensor . Ceiling mount occupancy sensor, for automatic operation control of HVAC devices. 24 Vac/Vdc current drain relay signal output. Selectable ON /OFF delays.

FIXING SYSTEMS

1) The casing of damper has been designed in order to be jointed in circular ducts. according to EN-1506 standard.

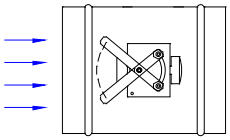
FINISHES

Galvanised steel.

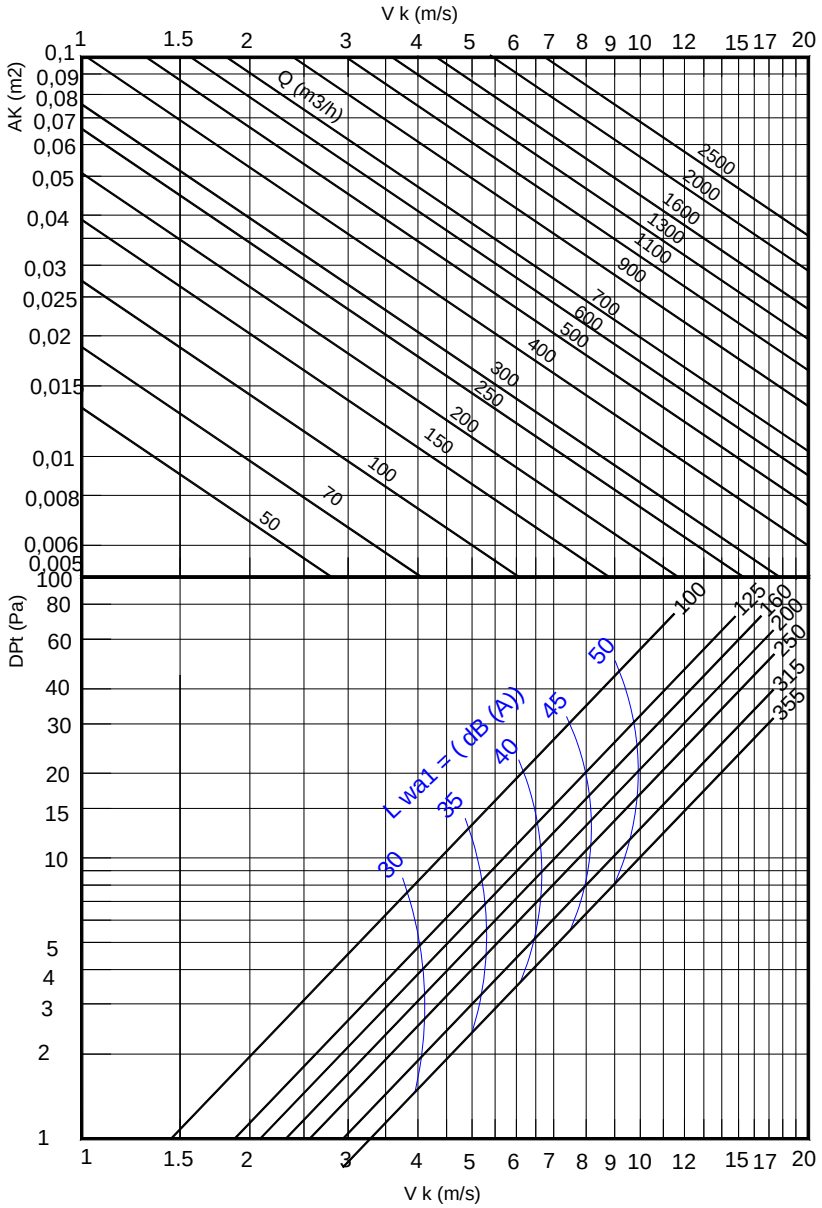
SPECIFICATION TEXT

Supply and mounting of airtight damper to control the air flow volume in circular ducts with manual control lever series **SCC-E-MA dim. 100** with duct connection according to EN-1506 standard. With rubber gaskets double lip to improve the sealing of the connection.

The damper is airtight according to EN-1751 standard. Caising Class C, Blade 3. Constructed from galvanised steel and bearings from nylon. Manufacturer **MADEL**.



NECK VELOCITY, PRESSURE LOSS AND SOUND POWER LEVEL.



NECK AREA m2.

D	Ak(m2)
100	0,0078
125	0,0123
160	0,0201
200	0,0314
250	0,0491
315	0,0779
355	0,0962

CORRECTION FACTOR FOR DPt : Kp

∝°	0°	15°	30°	45°	60°
Kp	1	1,5	8	20	140

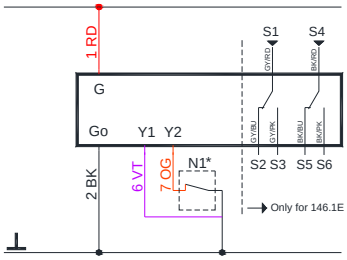
$DPt' = Kp \times DPt$

SIEMENS Wiring diagrams

ON/OFF – 3P CONTROL.

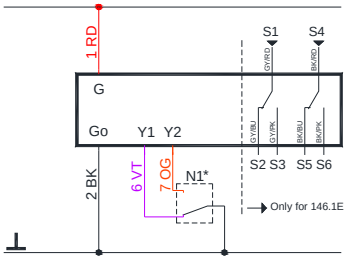
GDB 14..1E
Open-close, Single wire control

AC 24 V
DC 24 V ... 48 V ⋯



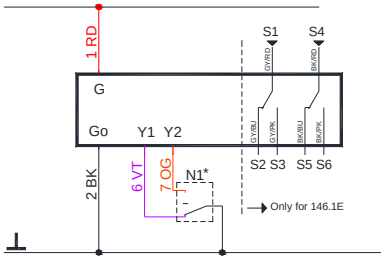
GDB 14..1E
Open-close, Two wire control

AC 24 V
DC 24 V ... 48 V ⋯



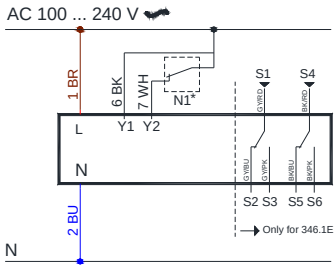
GDB 14..1E
Three-position control

AC 24 V
DC 24 V ... 48 V ⋯



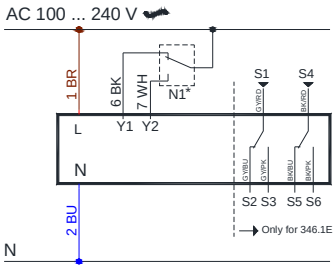
GDB 34..1E
Open-close, Single wire control

AC 100 ... 240 V



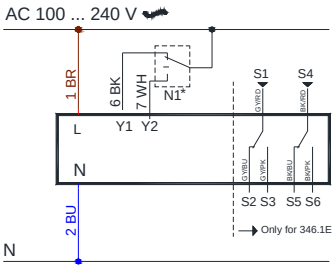
GDB 34..1E
Open-close, Two wire control

AC 100 ... 240 V



GDB 34..1E
Three-position control

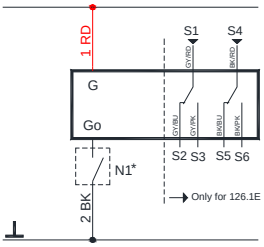
AC 100 ... 240 V



SPRING RETURN - ON/OFF – Two-position control

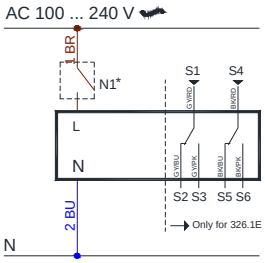
GMA 121.1E
Two-position control

AC 24 V
DC 24 V ... 48 V ⋯



GMA 321.1E
Two-position control

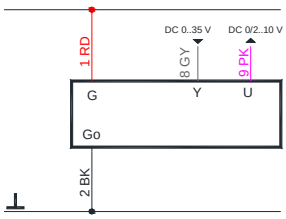
AC 100 ... 240 V



MODULATING control 0-10 V

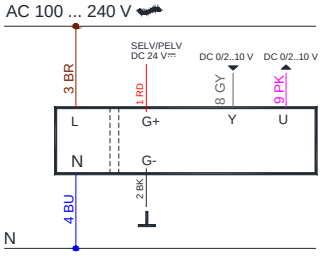
GDB 16..1E
Modulating control

AC 24 V
DC 24 V ... 48 V ⋯



GDB 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.

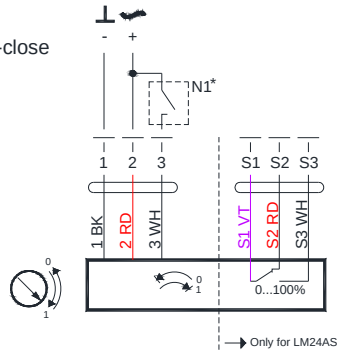
https://www.buildingtechnologies.siemens.com/bt/global/en/products/HVAC-Products/Damper-actuators/Actuators-for-HVAC-applications/Pages/Actuators-for-HVAC-applications-default.aspx

04/17

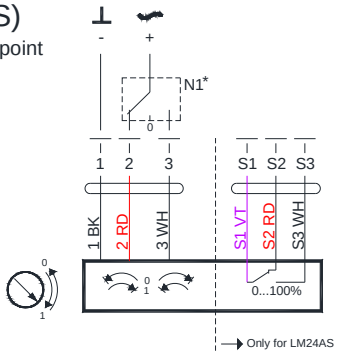
BELIMO Wiring diagrams

ON/OFF – 3P CONTROL.

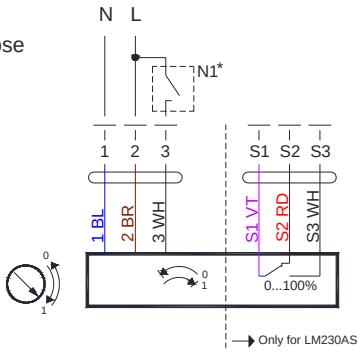
LM-24A..(S)
AC/DC 24 V, Open-close



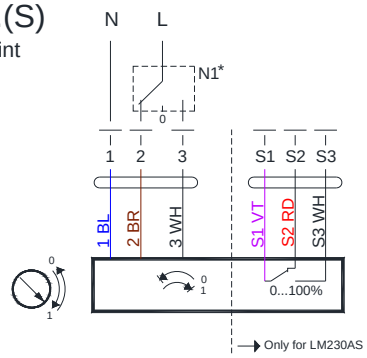
LM-24A..(S)
AC/DC 24 V, 3-point



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

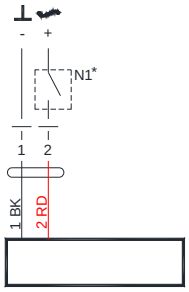


LM-230A..(S)
AC 230V, 3-point

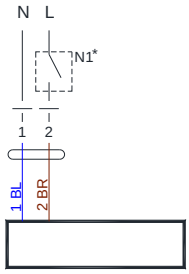


SPRING RETURN - ON/OFF – Two-position control

LF24
AC/DC 24 V, Open-close

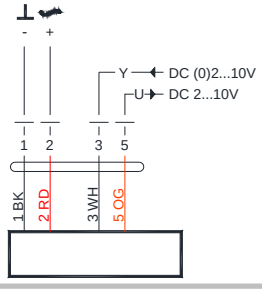


LF230
AC 230 V, Open-close

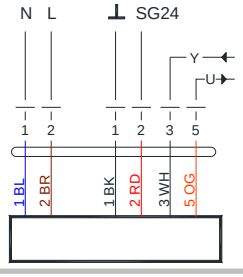


MODULATING control 0-10 V

LM24A-SR
AC/DC 24 V, modulating



LM230A-SR
AC 230 V, Open-close



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

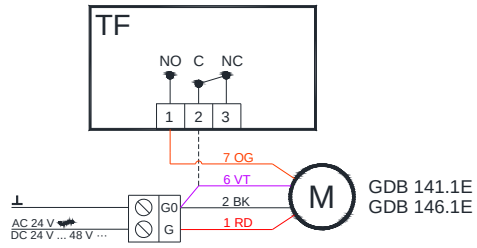
04/17

TF Wiring diagrams

TF + SIEMENS actuators

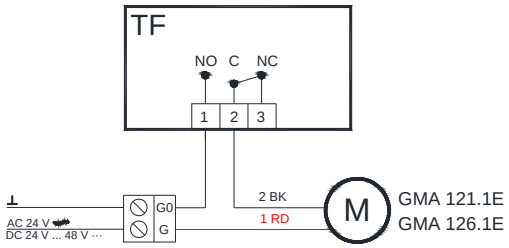
AC/DC 24 V - ON/ OFF control

GDB 141/146.1E



GDB 141.1E
GDB 146.1E

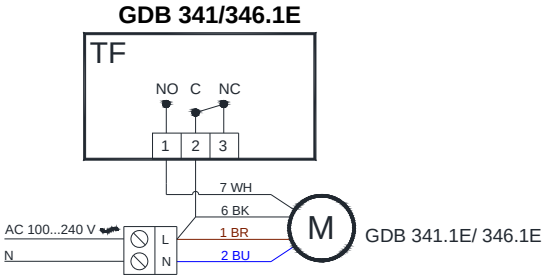
GMA 121/126.1E



GMA 121.1E
GMA 126.1E

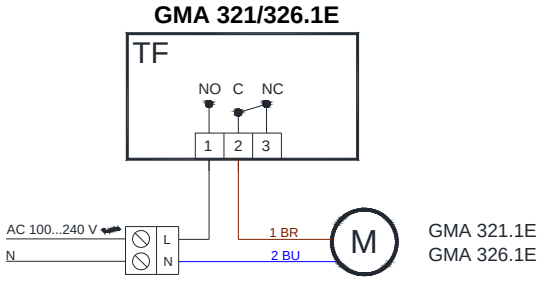
AC 230 V - ON/ OFF control

GDB 341/346.1E



GDB 341.1E/ 346.1E

GMA 321/326.1E

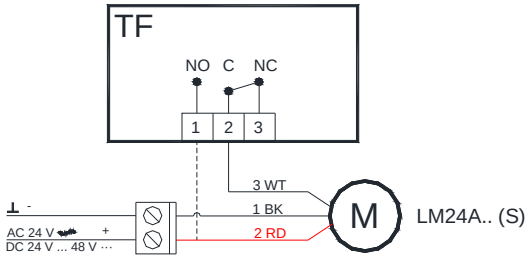


GMA 321.1E
GMA 326.1E

TF + BELIMO actuators

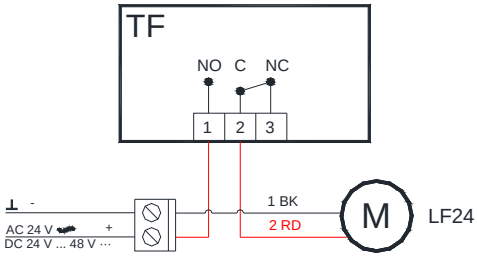
AC/DC 24 V - ON/ OFF control

LM-24A ..(S)



LM24A.. (S)

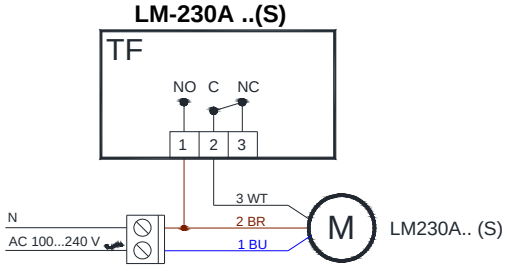
LF-24



LF24

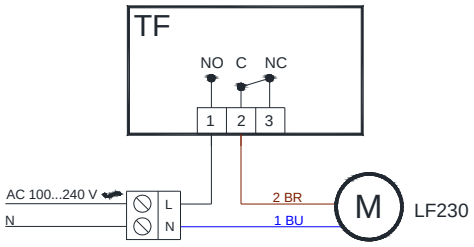
AC 230 V - ON/ OFF control

LM-230A ..(S)



LM230A.. (S)

LF-230



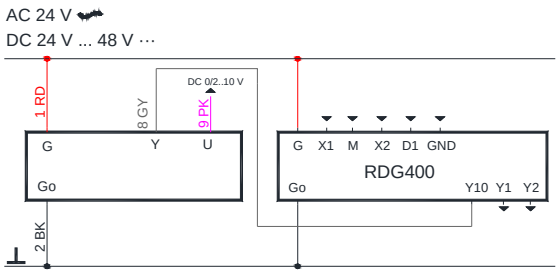
LF230

RDG400 Wiring diagrams

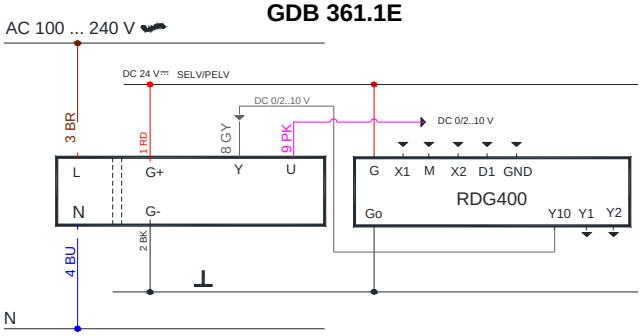
RDG 400 + SIEMENS actuators

Modulating control + manual changeover

GDB 161.1E



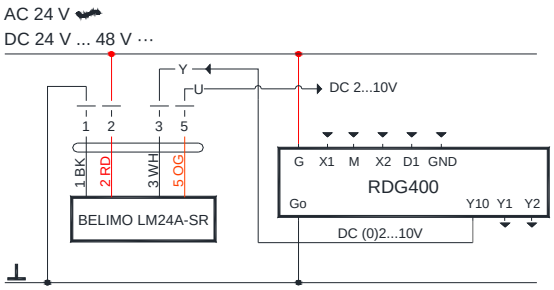
GDB 361.1E



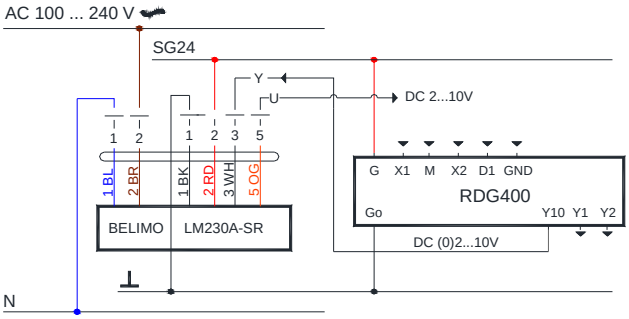
RDG 400 + BELIMO actuators

Modulating control + manual changeover

LM-24A -SR



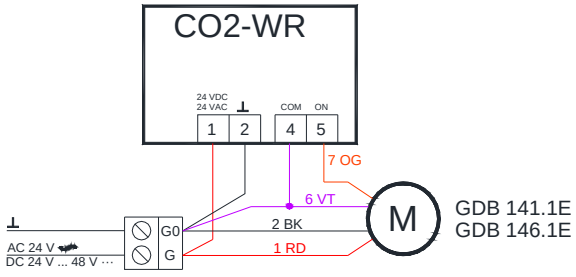
LM230A-SR



CO2-WR Wiring diagrams

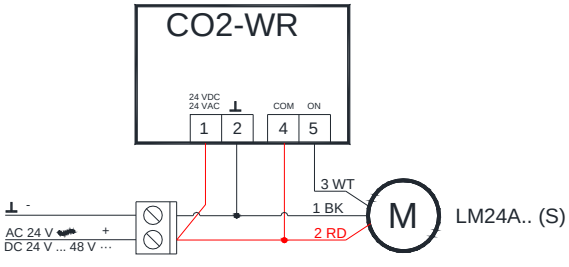
CO2-WR+ SIEMENS GDB 141.1E

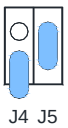
On/OFF control



CO2-WR+ BELIMO LM24A.. (S)

On/OFF control





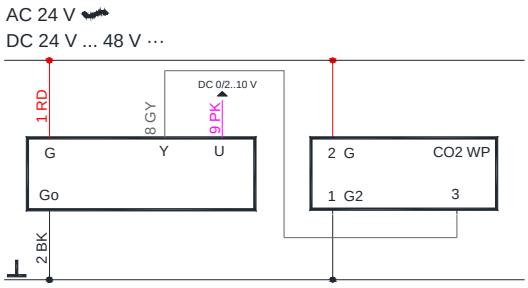
	J4	J5	Relay
800 ppm	disconnected	disconnected	CO2> 900 ppm. Relay ON; CO2 < 700 ppm Relay OFF
1000 ppm	connected	disconnected	CO2> 1100 ppm. Relay ON; CO2 < 900 ppm Relay OFF
1200 ppm (default)	disconnected	connected	CO2> 1200 ppm. Relay ON; CO2 < 1100 ppm Relay OFF
1400 ppm	connected	connected	CO2>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

CO2-WP Wiring diagrams

CO2-WP + SIEMENS actuators

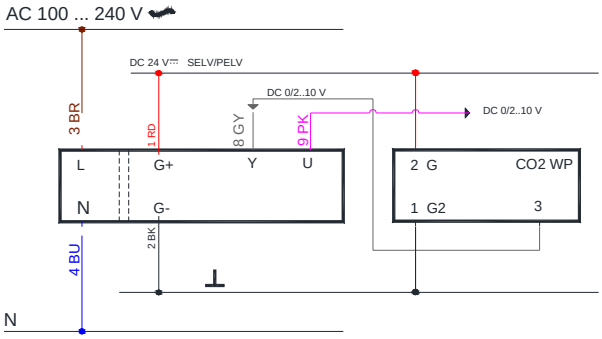
AC/DC 24 V – Modulating control

GDB 161.1E



AC 230 V – Modulating control

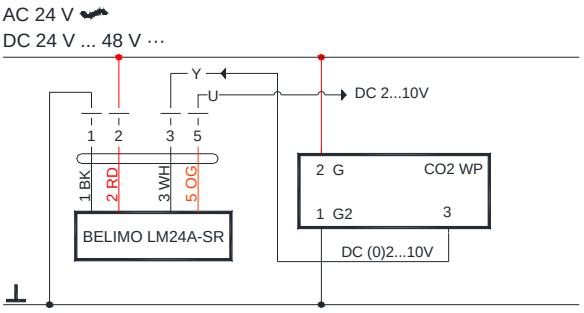
GDB 361.1E



CO2-WP + BELIMO actuators

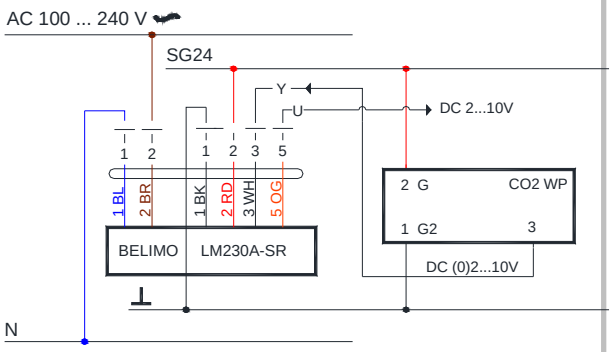
AC/DC 24 V – Modulating control

LM24A-SR

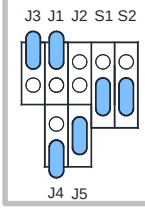


AC 230 V – Modulating control

LM230A - 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

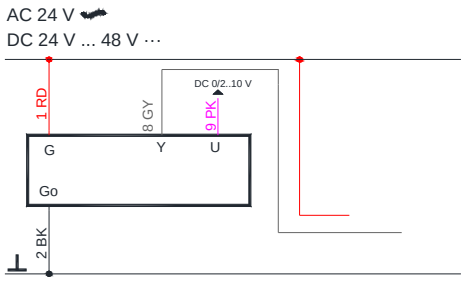
	J4	J5
350 ppm	disconnected	disconnected
500 ppm	connected	disconnected
800 ppm (default)	disconnected	connected
1200 ppm	connected	connected

CO2-D Wiring diagrams

CO2-WD + SIEMENS actuators

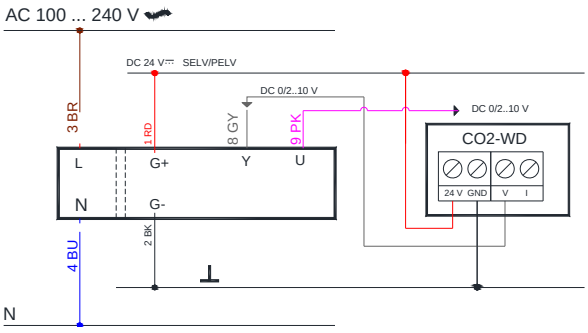
AC/DC 24 V – Modulating control

GDB 161.1E



AC 230 V – Modulating control

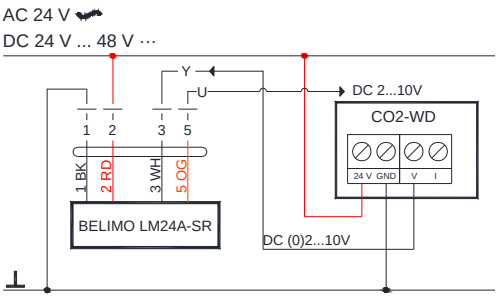
GDB 361.1E



CO2-WD + BELIMO actuators

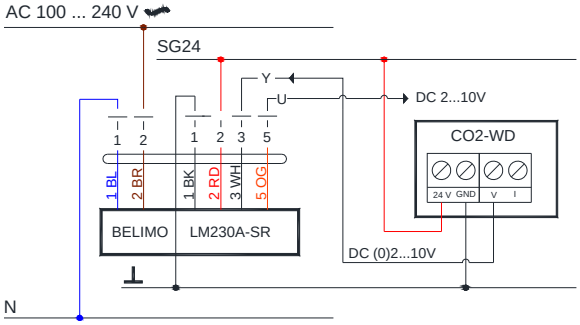
AC/DC 24 V – Modulating control

LM24A-SR



AC 230 V – Modulating control

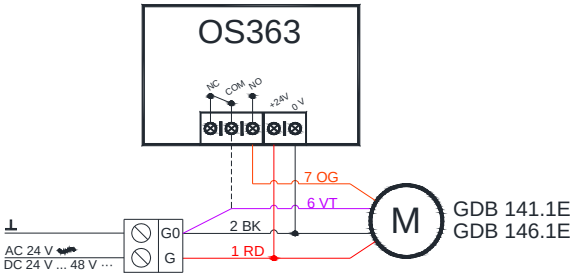
LM230A - SR



OS-360 Wiring diagrams

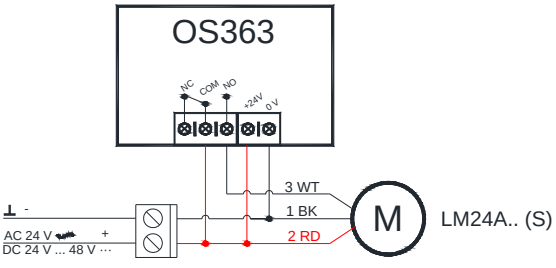
OS360+ SIEMENS GDB 141.1E

On/OFF control



OS360+BELIMO LM24A.. (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