



OpenAir™

Air damper actuators

GDB...2
GLB...2

Electronic motor-driven linear actuators for three-position and modulating control

- AC 24 V / AC 230 V
- Nominal force 125 N (GDB) / 250 N (GLB)
- Travel 60 mm, mechanical adjustable
- Connection cable PVC, 0.9 m

Type-specific variations:

- Adjustable offset and span (Positioning signal)
- Position indicator
- Self-adaptation linear span
- 2 adjustable auxiliary switches

Remarks

This data sheet provides a brief overview of these actuators. Please refer to the Technical Basics in document Z4664en for a detailed description as well as information on safety, engineering notes, mounting and commissioning.

Use

- For damper areas up to 0.8 m² (GDB) / 1.5 m² (GLB), friction-dependent.
- Suitable for modulating controllers (DC 0...10 V) or three-position controllers (e.g. rotary and linear dampers at air outlets).

Type summary

GDB.../GLB...	131.2E	136.2E	331.2E	336.2E	161.2E	163.2E
Control type	Three-position control				Modulating control	
Operating voltage AC 24 V	X	X			X	X
Operating voltage AC 230 V			X	X		
Positioning signal Y DC 0...10 V					X	
DC 0...35 V with character- istic function U_0 , ΔU						X
Position indicator $U = DC\ 0...10\ V$					X	X
Self-adaptation of linear span					X	X
Auxiliary switches (two)		X		X		
Linear direction switch					X	X

Functions

Type	GDB.3..2 / GLB.3..2	GDB16..2 / GLB16..2
Control type	Three-position control	Modulating control
Positioning signal with ad- justable characteristic func- tion		DC 0...35 V at Offset $U_0 = 0...5\ V$ Span $\Delta U = 2...30\ V$
Linear travel direction	The direction of linear travel depends on...	
	...the type of control. With no power ap- plied, the actuator remains in the respec- tive position.	...the DIL switch setting outward / inward.
Position indication		Position indicator: Output voltage $U = DC\ 0...10\ V$ is generated proportional to the linear travel. U depends of DIL switch setting.
Auxiliary switch	The switching points for auxiliary switches A and B can be set independent of each other in increments of 3.4 between 3.4 and 57.1 mm.	
Self-adaptation of linear span		When self-adaptation is active, the actua- tor automatically determines the mechani- cal end positions of the linear span and maps the characteristic function (U_0 , ΔU) to the calculated linear span.
Linear limitation	Stepless limitation between 0 and 60 mm for the linear travel is possible by means of a clamp from the linear/rotary set ASK55.2	

Ordering

Note

Auxiliary switches **cannot be added in the field**.

Accessories, spare parts

Accessories to functionally extend the actuators are available, e.g., various linear/rotary sets; see data sheet **N4698**.

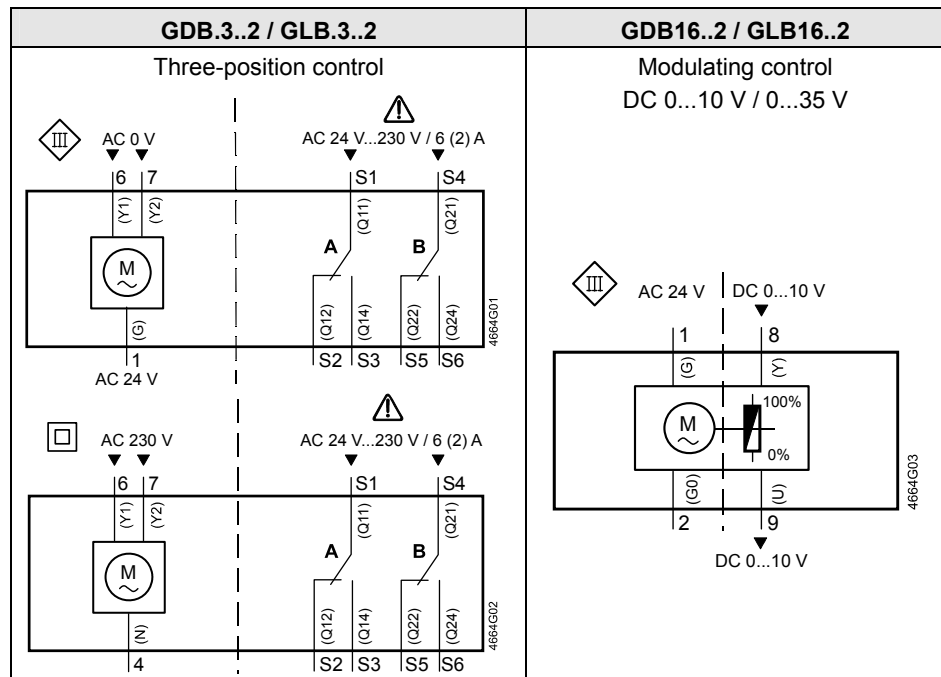
Technical data

 AC 24 V supply (SELV/PELV)	Operating voltage / Frequency	AC 24 V $\pm$ 20 % / 50/60 Hz
	Power consumption GDB13..2 / GLB13..2	2 VA / 1 W
 AC 230 V supply	GDB16..2 / GLB16..2 Push rod moves	3 VA / 2 W
	Holding	1 W
Function data	Operating voltage / Frequency	AC 230 V $\pm$ 10 % / 50/60 Hz
	Power consumption GDB33..2/GLB33..2	2 VA / 1 W
	Nominal linear force	125 N (GDB) / 250 N (GLB)
	Maximum linear force	180 N (GDB) / 350 N (GLB)
Positioning signal Y for GDB/GL	Maximum linear travel	60 mm
	Runtime for 60 mm linear travel	150 s (50 Hz) / 125 s (60 Hz)
	Input voltage Y (wires 8-2)	DC 0...10 V, intern limited of DC 10 V
Characteristic functions for GDB161.2 for GDB163.2	Max. permissible input voltage	DC 35 V
	Input voltage Y (wires 8-2)	DC 0...35 V
	Non-adjustable characteristic function	DC 0...10 V
	Adjustable characteristic function	
	Offset U ₀	DC 0...5 V
Position indicator for GDB/GLB16..2	Span Δ U	DC 2...30 V
	Output voltage U (wires 9-2)	DC 0...10 V or DC 10...0 V
	Max. output current	DC $\pm$ 1 mA
 Auxiliary switches for GDB/GLB..6.2	Contact rating	6 A resistive, 2 A inductive
	Voltage (no mixed operation AC 24 V / AC 230 V)	AC 24...230 V
	Switching range for auxiliary switches	3.4...57.1 mm
	Setting increments	3.4 mm
Connection cables	Cross-section	0.75 mm ²
	Standard length	0.9 m
Degree of protection of housing	Degree of protection as per EN 60 529 (note mounting instructions)	IP 40
Protection class	Insulation class	EN 60 730
	AC 230 V, auxiliary switch	II
Environmental conditions	Operation / Transport	EN 60721-3-3 / EN 60721-3-2
	Temperature	-32...+55 °C / -32...+70 °C
	Humidity (non-condensing)	< 95% r. F. / < 95% r. F.
Standards and directives	Product safety: Automatic electrical controls for household and similar use	EN 60 730-2-14 (Type 1)
	Electromagnetic compatibility (EMC):	
	Immunity for all models	IEC/EN 61 000-6-2
	Emissions for all models	IEC/EN 61 000-6-3
	 Conformity to	
	EMV-directives	2004/108/EC
	Low voltage directives	2006/95/EC
	 C-Tick conformity to	
	Radio Interference Emission Standard	AS/NZS 61000-6-3
	Dimensions	
Weight	Actuator W x H x D (see "Dimensions")	70.3 x 152 x 59 mm
	Push rod (profile)	10 x 4 mm
	Without packaging: GDB... / GLB...	0.48 kg

Disposal

The document on technical basics and the environmental declaration provide information on environmental compatibility and disposal of this device.

Internal diagrams



Cable labeling

Pin	Cable				Meaning
	Code	Number	Color	Abbreviation	
Actuators AC 24 V	G	1	red	RD	System potential AC 24 V
	G0	2	black	BK	System neutral
	Y1	6	purple	VT	Pos. signal AC 0 V, outward travel
	Y2	7	orange	OG	Pos. signal AC 0 V, inward travel
	Y	8	grey	GY	Pos. signal DC 0...10 V, 0...35 V
	U	9	pink	PK	Position indication DC 0...10 V
Actuators AC 230 V	N	4	blue	BU	Neutral conductor
	Y1	6	black	BK	Pos. signal AC 230 V, outward travel
	Y2	7	white	WH	Pos. signal AC 230 V, inward travel
Auxiliary switch	Q11	S1	grey/red	GY RD	Switch A Input
	Q12	S2	grey/blue	GY BU	Switch A Normally closed contact
	Q14	S3	grey/pink	GY PK	Switch A Normally open contact
	Q21	S4	black/red	BK RD	Switch B Input
	Q22	S5	black/blue	BK BU	Switch B Normally closed contact
	Q24	S6	black/pink	BK PK	Switch B Normally open contact

Dimensions

