



OpenAir™

Air damper actuators

GDB...1
GLB...1

Rotary version, modulating, AC 24 V / AC 230 V

Electronic motor driven actuators for three-position and modulating control, nominal torque 5 Nm (GDB) or 10 Nm (GLB), mechanically adjustable span between 0...90°, pre-wired with 0.9 m long connection cables. Type-specific variations with adjustable offset and span for the positioning signal, position indicator, feedback potentiometer and adjustable auxiliary switches for supplementary functions.

Remarks

This data sheet provides a brief overview of these actuators. Please refer to the Technical Basics in document Z4634E for a detailed description as well as information on safety, engineering notes, mounting and commissioning Z4634E.

Use

- For damper areas up to 0.8 m² (GDB) / 1.5 m² (GLB), friction-dependent
- Suitable for use with modulating controllers (DC 0...10 V) or three-position controllers for air dampers or air throttles.

Type summary

GDB.../GLB...	131.1E	132.1E	136.1E	331.1E	332.1E	336.1E	161.1E	163.1E	164.1E	166.1E
Control type	Three-position control						Modulating control			
Operating voltage AC 24 V	X	X	X				X	X	X	X
Operating voltage AC 230 V				X	X	X				
Positioning signal Y DC 0...10 V							X	X	X	X
DC 0...35 V with characteristic function $U_0, \Delta U$								X	X	
Position indicator $U = DC 0...10 V$							X	X	X	X
Feedback potentiometer 1 k Ω		X			X					
Self-adaption of rotational angle range							X	X	X	X
Auxiliary switches (two)			X			X			X	X
Rotary direction switch							X	X	X	X

Functions

Type	GDB.3..1 / GLB.3..1	GDB16..1 / GLB16..1
Control type	Three-position control	Modulating control
Positioning signal with adjustable characteristic function		DC 0...35 V at Offset $U_0 = 0...5 V$ Span $\Delta U = 2...30 V$
Rotary direction	Clockwise or counter-clockwise direction depends... ...the type of control. With no power applied, the actuator remains in the respective position.	
Position indication: Mechanical	Rotary angle position indication by using a position indicator.	
Position indication: Electrical	The feedback potentiometer can be connected to external voltage to indicate the position.	Position indicator: Output voltage $U = DC 0...10 V$ is generated proportional to the rotary angle. U depends on the rotary direction of the DIL switch setting.
Auxiliary switch	The switching points for auxiliary switches A and B can be set independent of each other in increments of 5° within 0° to 90°.	
Self-adaptation of linear span		When self-adaptation is active, the actuator automatically determines the mechanical end positions of the linear span and maps the characteristic function ($U_0, \Delta U$) to the calculated linear span.
Rotary angle limitation	The rotary angle of the shaft adapter can be limited mechanically at increments of 5°.	

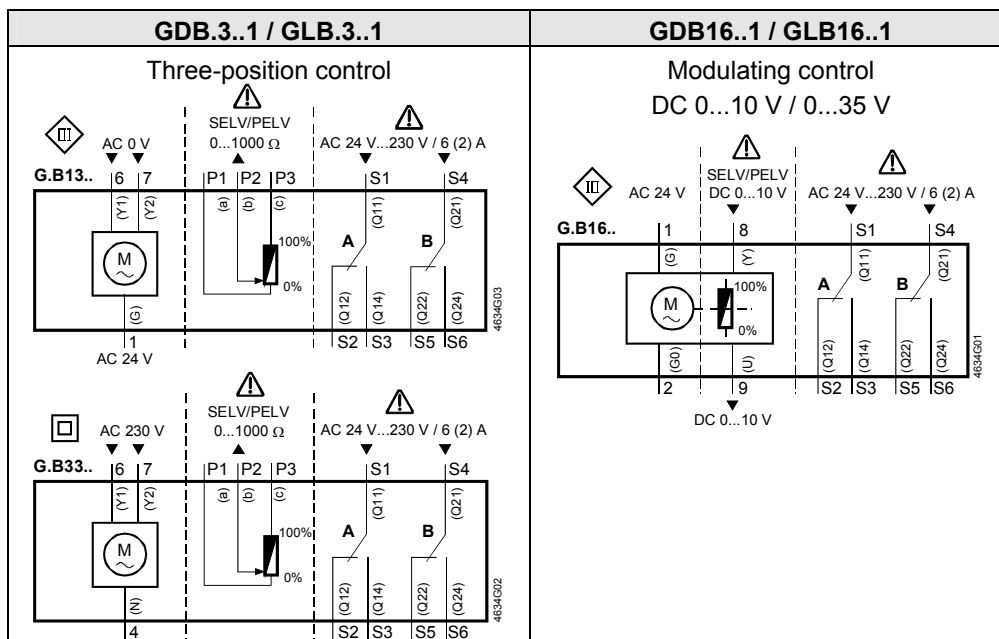
Ordering

Note

Potentiometer and auxiliary switches **cannot be added in the field**. For this reason, order the type that includes the required options.

Accessories, spare parts

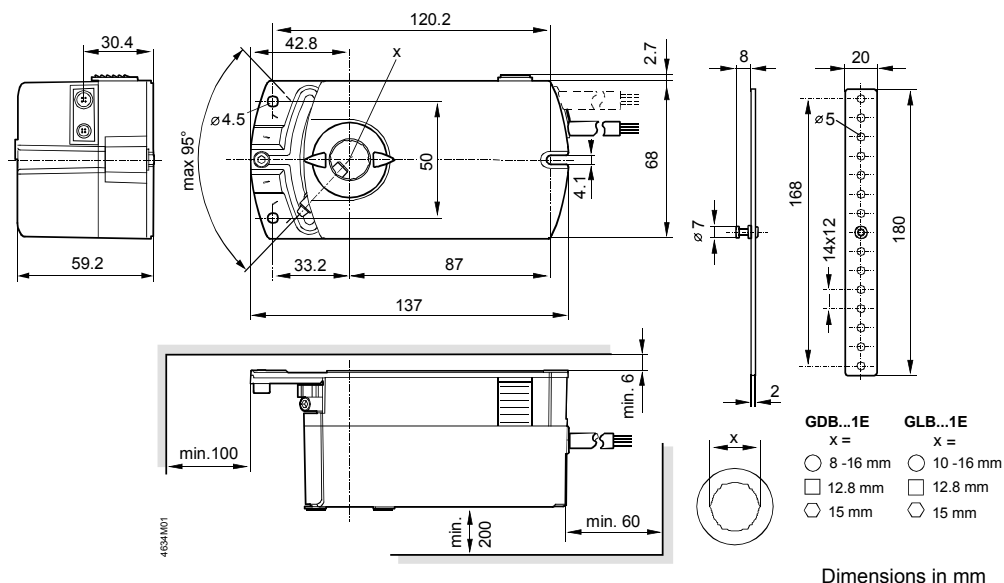
Accessories to functionally extend the actuators are available, e.g., rotary/linear sets, see data sheet **N4698**.



Cable labeling

Pin	Cable				Meaning
	Code	No.	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	Position signal AC 0 V, clockwise
	Y2	7	orange	OG	Position signal AC 0 V, counter-clockwise
	Y	8	grey	GY	Position signal DC 0..10 V, 0..35 V
	U	9	pink	PK	Position indication DC 0...10 V
Actuators AC 230V	N	4	blue	BU	Neutral conductor
	Y1	6	black	BK	Control signal AC 230 V, clockwise
	Y2	7	white	WH	Control signal AC 230 V, counter-clockwise
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
Feedback potentiometer	a	P1	white /red	WH RD	Potentiometer 0...100 % (P1-P2)
	b	P2	white /blue	WH BU	Potentiometer pick-off
	c	P3	white /pink	WH PK	Potentiometer 100...0 % (P3-P2)

Dimensions



Dimensions in mm