ACTUATOR IQAZ-35 - FUNCTION

CHILLED BEAMS

FUNCTION ACTUATOR IQAZ-23

Electronic motor-driven linear actuators for three-position and modulating control, nominal force 125 N (GDB) / 250 N (GLB), travel 60 mm, 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, self-adaptation of the linear span, 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 Siemens 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

Control type	Three-position control						Modulating control			
GDB.../GLB...	131.2E	132.2E	136.2E	331.2E	332.2E	336.2E	161.2E	163.2E	164.2E	166.2E
Operating voltage	●	●	●	–	–	–	●	●	●	●
Operating voltage AC 230	–	–	–	●	●	●	–	–	–	–
Positioning signal Y	–	–	–	–	–	–	–	●	●	–
DC 0...35 V with characteristic function Uo, ΔU	–	–	–	–	–	–	–	●	●	–
Position indicator U = DC 0...10 V	–	●	●	●	●	–	–	–	–	–
Feedback potentiometer 1 kΩ	–	●	–	–	●	–	–	–	–	–
Self-adaptation of linear span	–	–	–	–	–	–	●	●	●	●
Auxiliary switches (two)	–	–	●	–	–	●	–	–	●	●
Linear direction switch	–	–	–	–	–	–	●	●	●	●

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FUNCTIONS

Type	GDB.3..2 / GLB.3..2	GDB16..2 / GLB16..2
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 ΔU = 2...30 V
Movement direction	The direction of linear travel depends on the type of control. With no power applied, the actuator remains in the respective position.	The direction of linear travel depends on the DIL switch setting outward / inward.
Position indication	The feedback potentiometer can be connected to voltage to indicate the position.	Position indicator: Output voltage U = DC 0...10 V is generated proportional to the linear travel. U depends of DIL switch setting.
Auxiliary switchr	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 actuator automatically determines the mechanical end positions of the linear span and maps the characteristic function (Uo, 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	

TECHNICAL DATA

AC 24 V supply (SELV/PELV)	Operating voltage / Frequency	AC 24 V ± 20 % / 50/60 Hz
Power consumption	GDB13..2 / GLB13..2	2 VA / 1 W
	GDB16..2 / GLB16..2 Push rod moves	3 VA / 2 W
	Holding	1 W
AC 230 V supply	Operating voltage / Frequency	AC 230 V ± 10 % / 50/60 Hz
	Power consumption GDB33..2/GLB33..2	2 VA / 1 W
Function data	Nominal linear force	125 N (GDB) / 250 N (GLB)
	Maximum linear force	180 N (GDB) / 350 N (GLB)
	Maximum linear travel	60 mm
	Runtime for 60 mm linear travel	150 s (50 Hz) / 125 s (60 Hz)
Positioning signal Y for GDB/GLB16..2	Input voltage Y (wires 8-2)	DC 0...10 V, intern limited of 10 V
	Max. permissible input voltage	DC 35 V
Characteristic functions for GDB161.2 / GLB166.2 for GDB163.2 / GLB164.2	Ingångsspänning Y (ledare 8-2)	DC 0 ...35 V
	Non-adjustable characteristic function	DC 0 ...10 V
	Adjustable characteristic function	
	Offset U_0	DC 0 ...5 V
	Span ΔU	DC 2 ...30 V
Position indicator for	Output voltage U (wires 9-2)	DC 0...10 V or DC 10...0 V
	2 Max. output current	DC ± 1 mA
Position indicator for GDB/GLB132.2/GDB/GLB332.2	Change of resistance (wires P1-P2)	0...1000 Ω
	Load	< 1 W
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 24 V, feedback potentiometer	III
	AC 230 V, auxiliary switch	II
Environmental conditions	Operation / Transport	IEC 721-3-3 / IEC 721-3-2
	Temperature	–30...+55 °C / –30...+60 °C
	Humidity (non-condensing)	< 95% RF / < 95% RF
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, except GDB/GLB.32.2x	IEC/EN 61 000-6-2
	Immunity for GDB/GLB.32.2x	IEC/EN 61 000-6-1
	Emissions for all models	IEC/EN 61 000-6-3
	CE Conformity:	
	Electromagnetic compatibility	89/336/EEC
	Low voltage directive	73/23/EEC
	C-Tick Conformity:	73/23/EEC
	Australian EMC Framework Radio Communication	Act 1992
	Radio Interference Emission Standard	AS/NZS 3548
Dimensions	Actuator B x H x D (see "Dimensions")	68 x 152 x 59 mm
	Push rod (profile)	10 x 4 mm
Weight without packaging:	GDB... / GLB...	0,48 kg

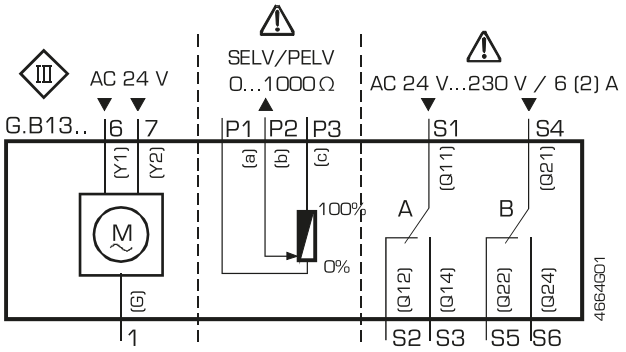
ORDERING

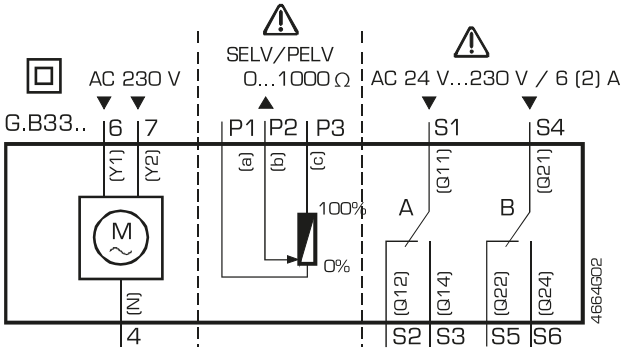
Hinweis	Potentiometer and auxiliary switches cannot be added in the field. For this reason, order the type that includes the required options.
Accessories, spare parts	Accessories to functionally extend the actuators are available, e.g., various linear/rotary sets; see Siemens data sheet N4698.

DISPOSAL

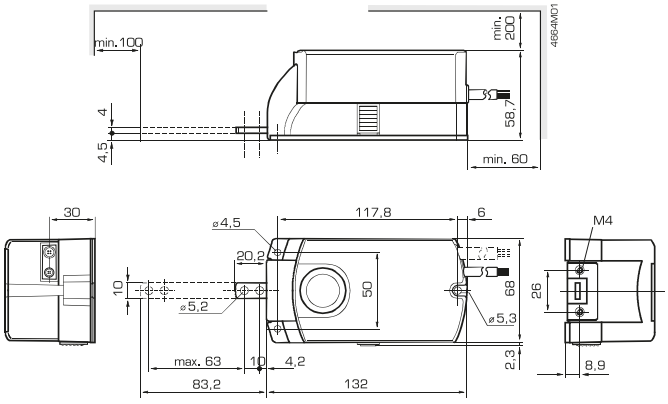
The Siemens document on technical basics and the environmental declaration provide information on environmental compatibility and disposal of this device.

INTERNAL DIAGRAMS GDB

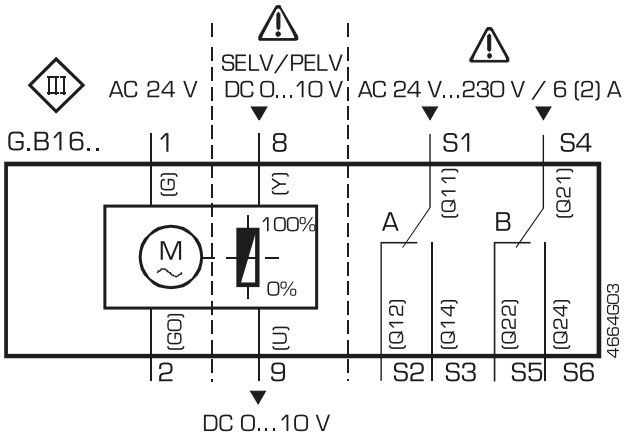




DIMENSIONS



All dimensions in mm.



CABLE LABELING

Connection (PIN)	Cable				Meaning
	Code	Number	Colour	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	GY RD Switch A Input
	Q12	S2	grey/blue	GY BU	Switch A Normally closed contact
	Q14	S4	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)