



OpenAir™

## Fast running actuators for air dampers

## GAP19...

Fast runner rotary version, AC/DC 24 V

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**Electronic actuator for 2-position, 3-position, or modulating control, nominal torque 6 Nm, at 2 s running time, self-centering shaft adapter, range mechanically adjustable between 0...90°, prewired with 0.9 m long standard connection cables. GAP196.1E with adjustable auxiliary switches for auxiliary functions.**

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### Use

- For damper areas up to ca. 1 m<sup>2</sup>, friction dependent.
- For laboratory fume hoods, etc.
- Suitable for use with continuous, 2-position, or 3-position controllers.

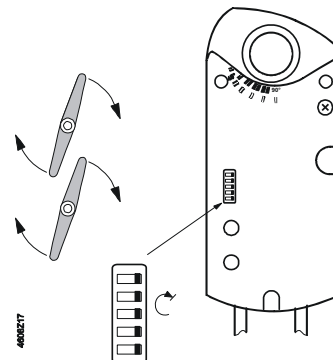
## Type summary

Types	Power	Auxiliary switch	Torque	Damper size	Runtime
GAP191.1E	AC/DC 24 V	No	6 Nm	Ca. 1 m <sup>2</sup>	2 s
GAP196.1E		Yes			

### Factory setting

The actuator is preset at the factory to:

- 0...10 V
- Clockwise rotary movement.



## Functions





DIL switch setting					
A DIL switch is used to set the actuator's functionality.					
Siemens default setting	Continuous control				2-position control
	DC 0...10 V 	DC 2...10 V 	0...20 mA 	4...20 mA 	2-Pt 

<b>Position indication: Mechanical</b>	Rotary angle position.
<b>Position indication: Electric.</b>	Output voltage U = DC 0...10 V is generated proportional to rotary angle. U depends on the DIL switch's rotary direction position.
<b>Rotary angle limitation</b>	The rotary angle of the shaft adapter can be limited mechanically to 5° increments.
<b>GAP196.1E auxiliary switch</b>	The switching points for auxiliary switches A and B can be set mutually independent in 5° increments from 0 to 90°.

## Ordering

Delivery	Individual parts such as shaft adapter with position indication and other mounting materials for the actuator are delivered <b>unassembled</b> .
Accessories, spare parts	Various accessories are available to extend the actuators' functionality; e.g. rotary/linear mounting kit, external auxiliary switch (1 or 2 switches) and weather shield; see data sheet <b>N4697</b> .

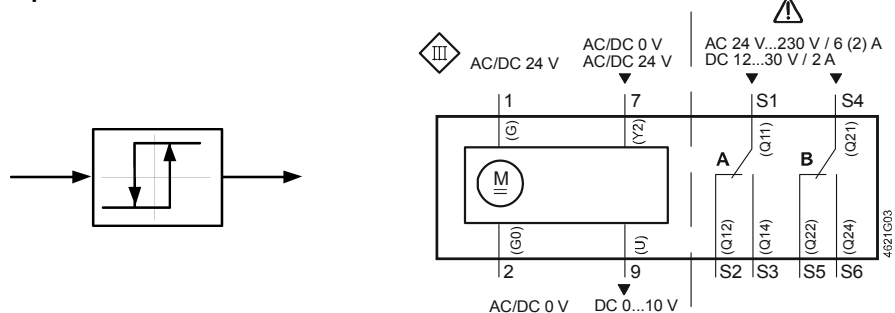
## Technical data

 24 VAC/VDC supply (SELV/PELV)	Operating voltage / Frequency	AC/DC 24 V $\pm$ 20 % / 50/60 Hz
	Power consumption:      Actuator running	30 VA / 22 W
Functional data	Hold	5 W
	Nominal torque	6 Nm
	Maximum torque (when blocked)	18 Nm
	Nominal rotary angle / max. rotary angle	90° / max. 95° $\pm$ 2°
	Runtime for 90° rotary angle	2 s (50 Hz) / 1.7 s (60 Hz)
Positioning signal Y/Y1	Input voltage Y/Y1+ (wires 8-2)	DC 0 (2)...10 V / 0 (4)...20 mA or AC/DC 0 V , AC/DC 24 V "open"
	Positioning resolution for DC 0 (2)...10 V / 0 (4)...20 mA	250 steps for 90°
	Max. permissible input voltage	AC/DC 24 V $\pm$ 20 %
Positioning signal Y2	Input voltage Y2+ (wires 7-2)	AC/DC 0 V , AC/DC 24 V "close"
	Max. permissible input voltage	AC/DC 24 V $\pm$ 20 %
Position indicator	Output voltage U (wires 9-2)	DC 0 (2)...10 V
	max. output current	DC $\pm$ 1 mA
 Auxiliary switch for GAP196	Contact loading	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	5°...90°
	Setting increments	5°
Connection cable	Cross-sectional area	0.75 mm <sup>2</sup>
	Standard length	0.9 m
Housing type	Protection class as per EN 60 529 (observe mounting notes)	IP 54
Protection class	Insulation class	EN 60 730
	230 VAC, auxiliary switch	II
Environmental conditions	Operation / Transport	IEC 721-3-3 / IEC 721-3-2
	Temperature	-32...+50 °C / -32...+70 °C
	Humidity (non-condensing)	< 95% r. h. / < 95% r. h.
Standards, guidelines	Product safety: Automatic electronic controls for household and similar use	EN 60 730-2-14 (Type 1)
	Electromagnetic compatibility (EMC)	
	Immunity	IEC/EN 61 000-6-2
	Emissions	IEC/EN 61 000-6-3
	 Conformity	
	Electromagnetic compatibility	2004/108/EC
	Low-voltage directive	2006/95/EC
	 Conformity	
Dimensions	Australian EMC Framework	Radio Communication Act 1992
	Radio Interference Emission Standard	AS/NZS 3548
	Actuator W x H x D (see Dimensions)	81 x 192 x 63 mm
	Damper shaft:      round	6.4... 20.5 mm
Weight	square	6.4... 13 mm
	Min. shaft length	20 mm
	Excl. packaging	1.260 kg

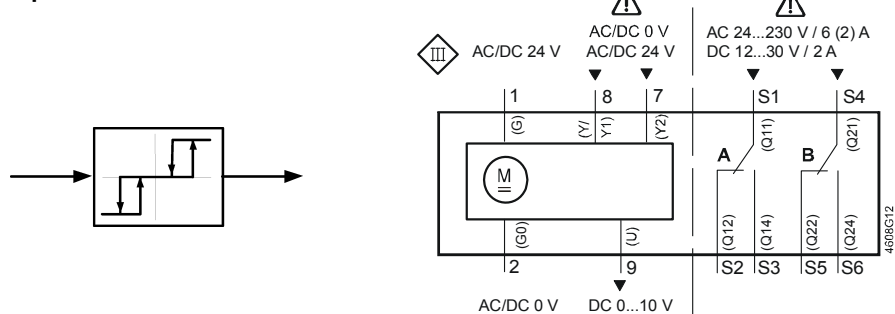
## Disposal

See "Technical basics" and the environmental declaration for information on environmental compatibility and device disposal.

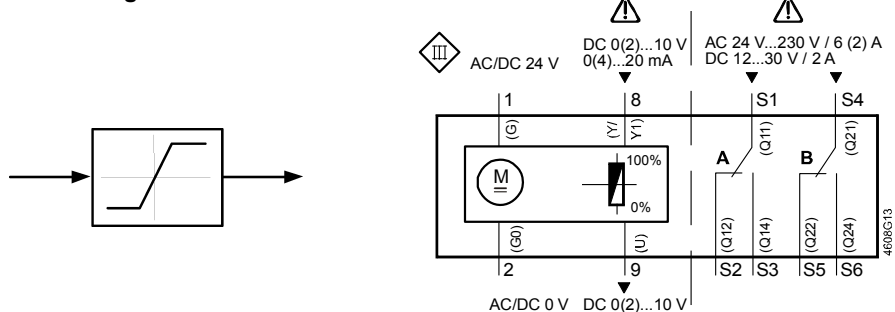
## 2-position control



## 3-position control



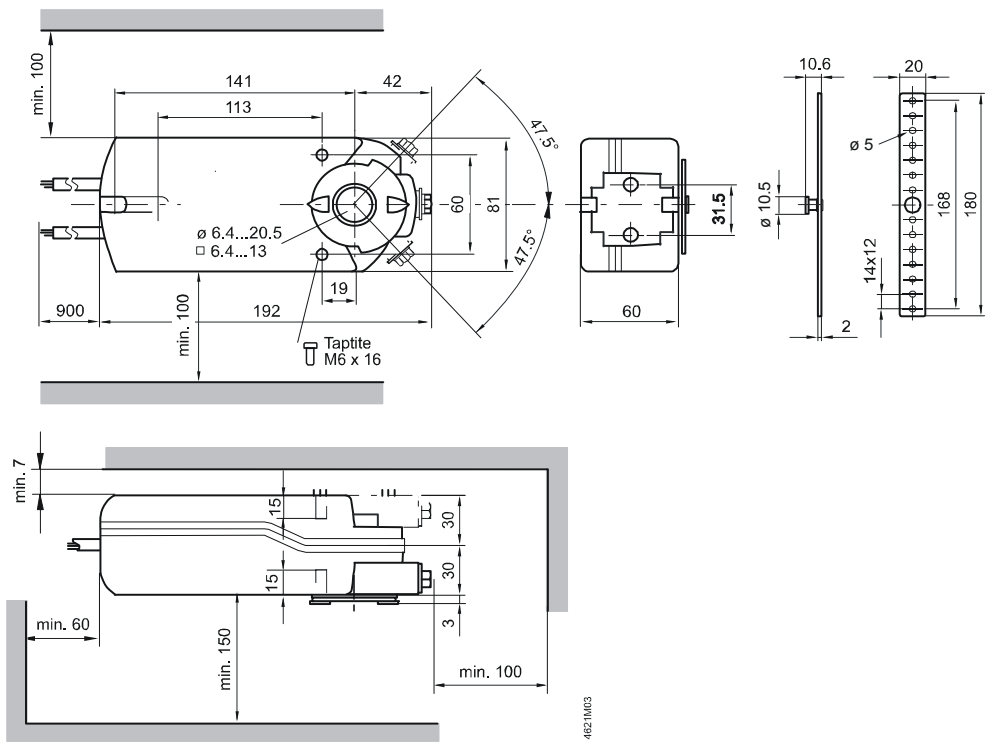
## Modulating control



## Cable designations

Pin	Cable				Meaning
	Code	No.	Color	Abbr.	
Actuators 24 VAC/VDC	G	1	red	RD	AC/DC 24 V system potential
	G0	2	black	BK	System ground
	Y2	7	orange	OG	Pos. signal AC/DC 0 V, AC/DC 24 V "close"
	Y/Y1	8	gray	GY	Pos. Signal DC 0 (2)...10 V 0 (4)...20 mA or Pos. signal AC/DC 0 V, AC/DC 24 V "open"
	U	9	rose	PK	Position indication DC 0 (2)...10 V
Auxiliary switch	Q11	S1	gray/red	GYRD	Switch A input
	Q12	S2	gray/blue	GYBU	Switch A Normally closed contact
	Q14	S3	gray/rose	GYPK	Switch A Normally open contact
	Q21	S4	black/red	BKRD	Switch B input
	Q22	S5	black/blue	BKBU	Switch B Normally closed contact
	Q24	S6	black/rose	BKPK	Switch B Normally open contact

Dimensions



Dimensions in mm