SIEMENS

OpenAir™

Fast running actuators for air dampers

GAP19..

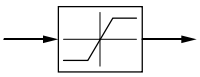
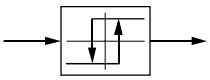
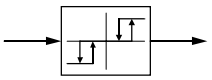
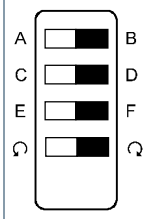
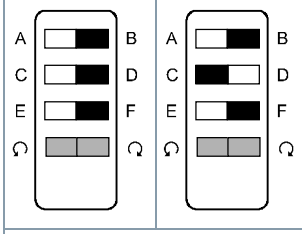
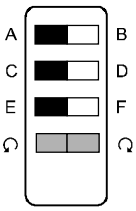
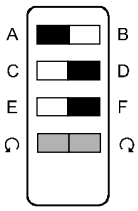
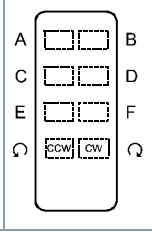
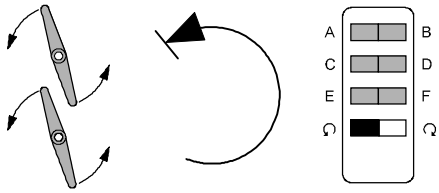
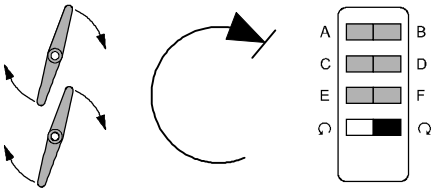
Fast runner rotary version, AC/DC 24 V

- Electromotoric 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

Use

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

Functions

DIL switch setting		A DIL switch is used to set the actuator's functionality.				
		Modulating control			2-position control	3-position control
	Factory setting					
		DC 0…10 V	**DC 2…10 V**	**0…20 mA**	**4…20 mA**	**2-Pt**	**3-Pt**
							
							
Position indication							
	Mechanical	Rotary angle position					
	Electrical	Output voltage U = DC 0...10 V is generated proportional to rotary angle. U depends on the DIL switch's rotary direction position.					
Rotary angle limitation		The rotary angle of the shaft adapter can be limited mechanically to 5° increments.					
GAP196.1E auxiliary switch		The switching points for auxiliary switches A and B can be set mutually independent in 5° increments from 0...90°.					

Type summary

Type	Power	Auxiliary switch	Torque	Holding torque	Damper size	Runtime
GAP191.1E [1]	AC/DC 24 V	No	6 Nm	Reduced	Ca. 1 m^2	2 s
GAP196.1E [2]		Yes				

[1] Approbation: CE, UL

[2] Approbation: CE

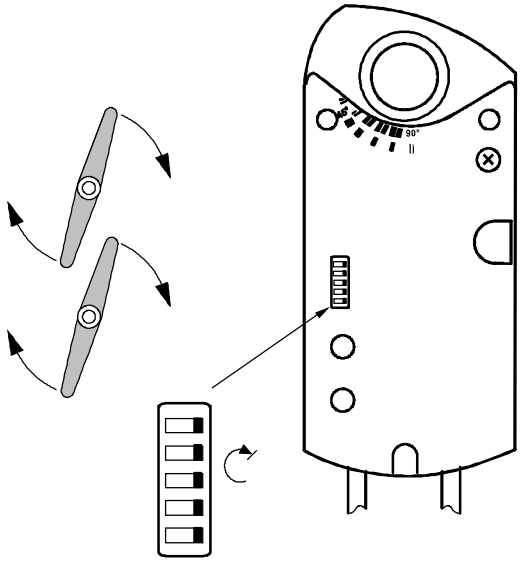
The GAP19..1E actuator has a reduced holding torque when **no electrical power** is applied.
For applications requiring a holding torque, the actuator must not be decoupled from the power supply.

Alternative: **GAP191.1E/IHT / S55499-D369**
GAP191.1E/IHT guarantees a holding torque of min. 6 Nm even in currentless state.

Factory setting

The actuator is preset at the factory to:

- 0...10 V
- Clockwise rotary movement



Scope of delivery

Individual parts such as shaft adapter with position indication and other mounting materials for the actuator are delivered **unassembled**.

Acessories / 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 **N4697**.

Product documentation

Content	Title	Document ID
Mounting instructions	Drehantrieb GAP19..1E, GNP19..1E	M4608
Data sheet	Accessories and spare parts for air damper actuators	N4697

Related documents such as the environmental declarations, CE declarations, etc., can be downloaded from the following Internet address:
https://siemens.com/bt/download

Notes

Safety

	**⚠ CAUTION**
	National safety regulations Failure to comply with national safety regulations may result in personal injury and property damage. ● Observe national provisions and comply with the appropriate safety regulations.

Disposal

	The device is considered an electronics device for disposal in terms of European Directive 2012/19/EU and may not be disposed of as domestic garbage. ● Dispose of the device through channels provided for this purpose. ● Comply with all local and currently applicable laws and regulations.

Technical data

Power		
Operating voltage (SELV/PELV)		AC/DC 24 V ± 20 %
Frequency		50 Hz / 60 Hz
Power consumption	Running	30 VA / 22 W
	Holding	5 W

Functional data		
Torque	Nominal torque	6 Nm
	Maximum torque (when blocked)	18 Nm
Rotary angle	Nominal rotary angle	90°
	Maximum rotary angle	95° ± 2°
Runtime for 90° rotary angle		2 s
Sound power level		45 dB(A)

Inputs		
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 DC 0 (2)...1 V / 0 (4)...20 mA	250 steps for 90°
	Maximum permissible input voltage	AC/DC 24 V ± 20 %
Positioning signal Y2		
	Input voltage Y2+ (wires 7-2)	AC/DC 0 V, AC/DC 24 V "close"
	Maximum permissible input voltage	AC/DC 24 V ± 20 %

Outputs		
Position indicator		
	Output voltage U (wires 9-2)	DC 0 (2)...10 V
	Maximum output current	DC ± 1 mA

Auxiliary switch (GAP196.1E)	
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	
Cable length	0.9 m
Cross-sectional area	0.75 mm^2

Housing type and protection class		
Insulation class		EN 60730
	AC 230 V, auxiliary switch	II
Housing protection class		IP54 as per EN 60529 (observe mounting notes)

Environmental conditions		
Operation		IEC 60721-3-3
	Temperature	-32…50 °C
	Humidity (non-condensing)	<95 % r.h.
Transportation		IEC 60721-3-2
	Temperature	-32…70 °C
	Humidity (non-condensing)	<95 % r.h.

Norms and directives			
Product safety:			EN 60730-2-14 Automatic electronic controls for household and similar use (Type 1)
Electromagnetic compatibility (Application)			EN IEC 61000-6-2:2019 Immunity standard for industrial environments EN IEC 61000-6-4:2019 Emission standard for industrial environments
EU Conformity (CE)			A5W00004380 [1)]
RCM Conformity			A5W00004381 [1)]
UL		GAP191.1E	As per UL 60730 http://ul.com/database
		GAP196.1E	-
	cUL	GAP191.1E	As per CSA-C22.2 No. 24-93
		GAP196.1E	-

Environmental compatibility
The product environmental declaration CE1E4608en [1] contains data on environmentally compatible product design and assessments (RoHS compliance, materials composition, packaging, environmental benefit, disposal).

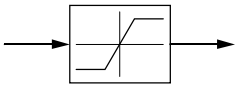
Dimensions		
Actuator B x H x T		81 x 192 x 63 mm (see Dimensions [▶ 10])
Damper shaft	Round	6.4...20.5 mm
	square	6.4...13 mm
	Minimum shaft length	20 mm
Weight	Excluding packaging	1.260 kg

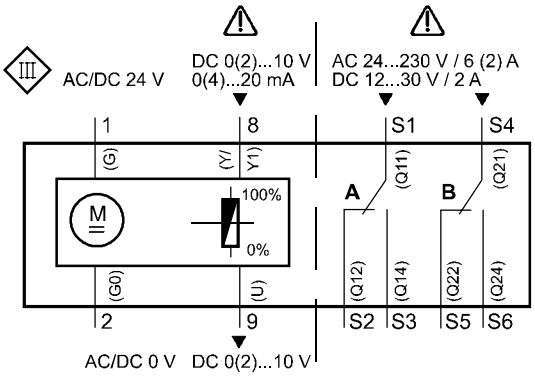
[1] The documents can be downloaded at http://siemens.com/bt/download.

Connection diagrams

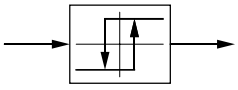
Internal diagrams

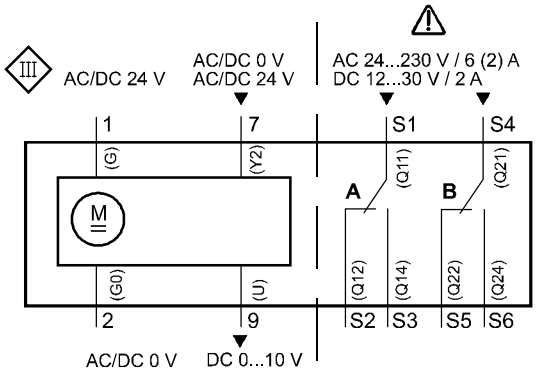
Modulating control

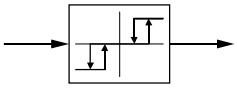
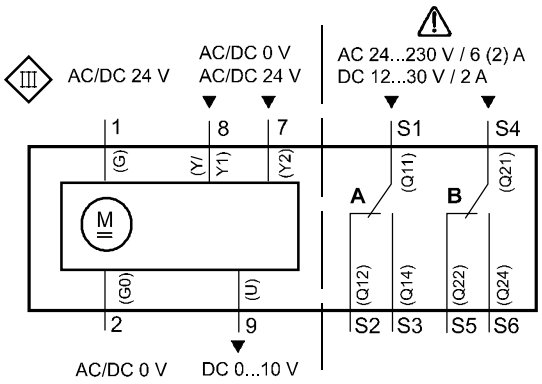




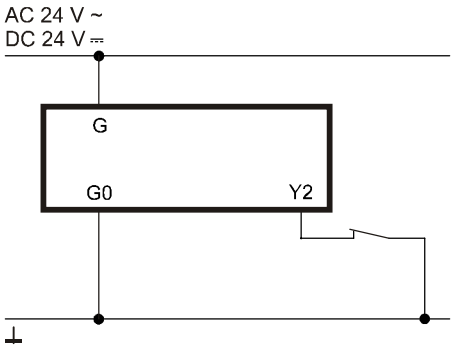
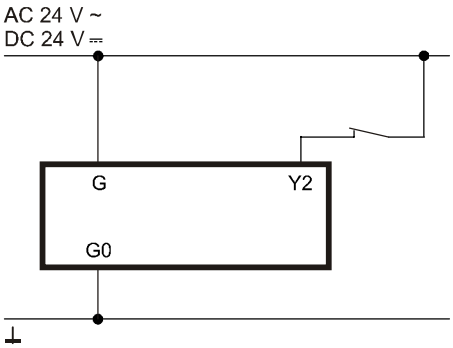
2-position control





3-position control	
	

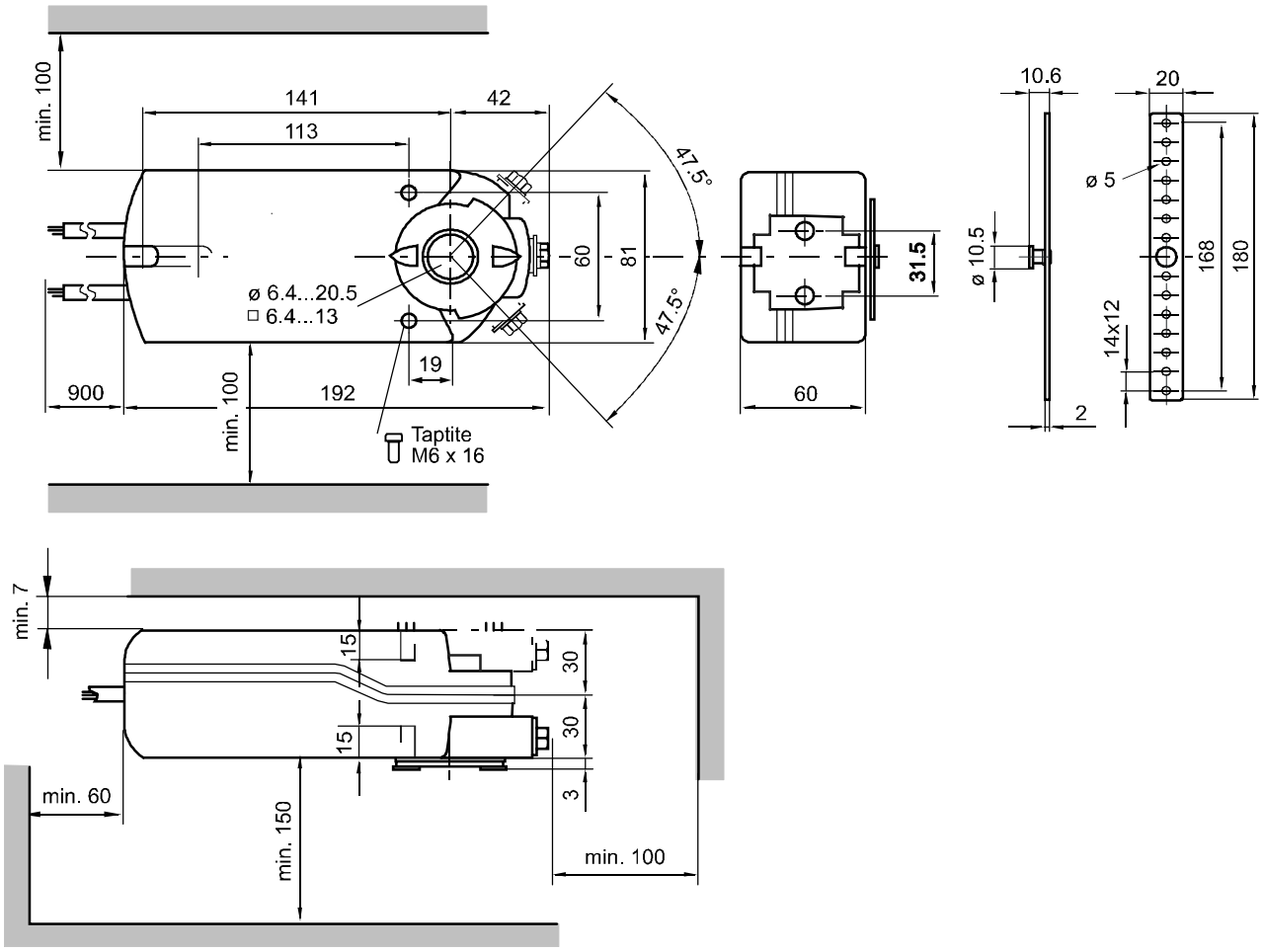
Connection diagrams

2-position control Single pole single throw (SPST)	
	

Cable designations

Pin	Cable				Meaning
	Code	No.	Color	Abbreviation	
Actuators AC/DC 24 V	G	1	Red	RD	System potential AC/DC 24 V
	G0	2	Black	BK	System neutral
	Y2	7	Orange	OG	Positioning signal AC/DC 0 V, AC/DC 24 V "close"
	Y/Y1	8	Gray	GY	Positioning signal DC 0 (2)...10 V 0 (4)...20 mA or Positioning signal AC/DC 0 V, AC/DC 24 V "open"
	U	9	Pink	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/pink	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/pink	BKPK	Switch B Normally open contact

Dimensions



Dimensions in mm

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