

OpenAir™

Fast running actuators for air dampers

GAP19..



Fast running rotary version, 24 VAC/VDC

- Electromotive rotary actuator for 2-position, 3-position, or modulating control
- Nominal torque 6 Nm at 2 s runtime
- Self-centering shaft adapter
- Mechanically adjustable span between 0...90°
- Prewired with 0.9 m standard connection cables
- GAP196.1E with adjustable auxiliary switches for auxiliary functions

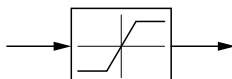
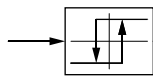
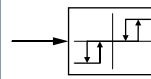
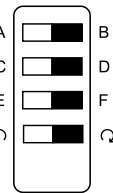
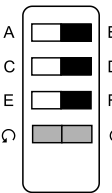

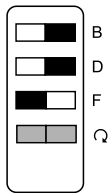
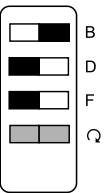
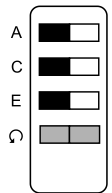
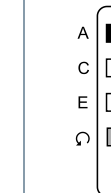
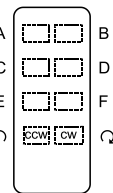
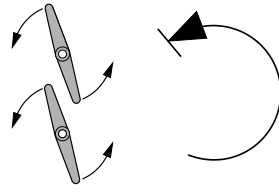
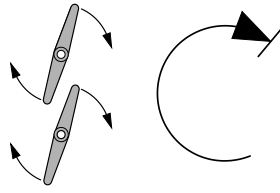
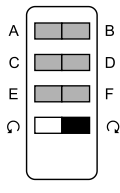
Application

- For damper areas up to ca. 1 m², friction dependent.
- For air technology applications within building technology
- For laboratory fume hoods, etc.
- Suitable for use with continuous, 2-position, or 3-position controllers.



The GAP19..1E actuator is **not** suitable for applications in railway vehicles.

Functions

DIL switch setting		A DIL switch sets 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	Rotation angle position					
	Electrical	Output voltage $U = \text{DC } 0...10 \text{ V}$ is generated proportional to the rotation angle. U depends on the DIL switch's rotation direction position.					
Rotation angle limitation		The rotation angle of the shaft adapter can be limited mechanically to 5° increments.					
Auxiliary switch GAP196.1E		The switching points for auxiliary switches A and B can be set mutually independent in 5° increments from 0 to 90° .					

Type summary

Type	Power supply	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.

Do not disconnect the power on the actuator from power on applications requiring a holding torque.

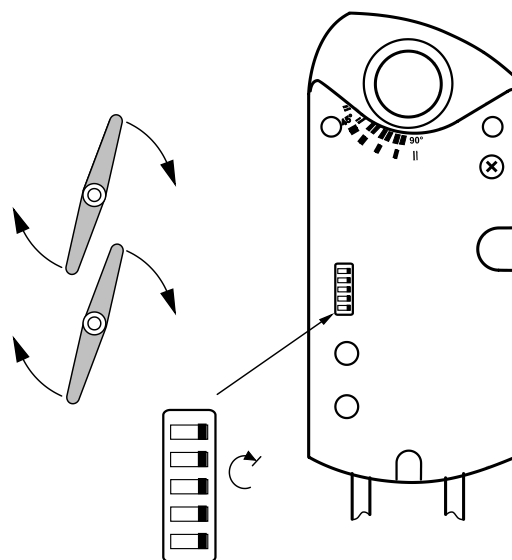
Alternative: GAP191.1E/IHT / S55499-D369

GAP191.1E/IHT guarantees a holding torque of min. 6 Nm even when not connected to power.

Factory setting

The actuator is preset at the factory to:

- 0...10 V
- Clockwise rotation movement



Delivery

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

Accessories / spare parts

Various accessories are available to extend the actuators' functionality; e.g. rotation/linear mounting kit, external auxiliary switch (1 or 2 switches) and protective cover; see data sheet **N4697**.

Product documentation


Topic	Title	Document ID
Mounting instructions	Rotary actuators 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. <ul style="list-style-type: none"> Observe national provisions and comply with the appropriate safety regulations.

Disposal

	The device is considered an electronic device for disposal in terms of the European Directive and may not be disposed of as domestic waste. <ul style="list-style-type: none"> Use only designated channels for disposing the devices. Comply with all local and currently applicable laws and regulations.
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Technical data

Power supply		
Operating voltage (SELV/PELV)		AC/DC 24 V \pm 20 %.
Frequency		50 Hz / 60 Hz
Power consumption	Running	30 VA / 22 W
	Standby	5 W

Functional data		
Torque	Nominal torque	6 Nm
	Maximum torque (when blocked)	18 Nm
Angle of rotation	Nominal angle of rotation	90°
	Maximum rotation angle	95° \pm 2°
Runtime at nominal angle of rotation 90°		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 step for 90°
	Maximum 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"
	Maximum permissible input voltage	AC/DC 24 V \pm 20 %.

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

Mechanical life	
Full cycles	100'000
Partial cycles	5'000'000

Auxiliary switches (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°

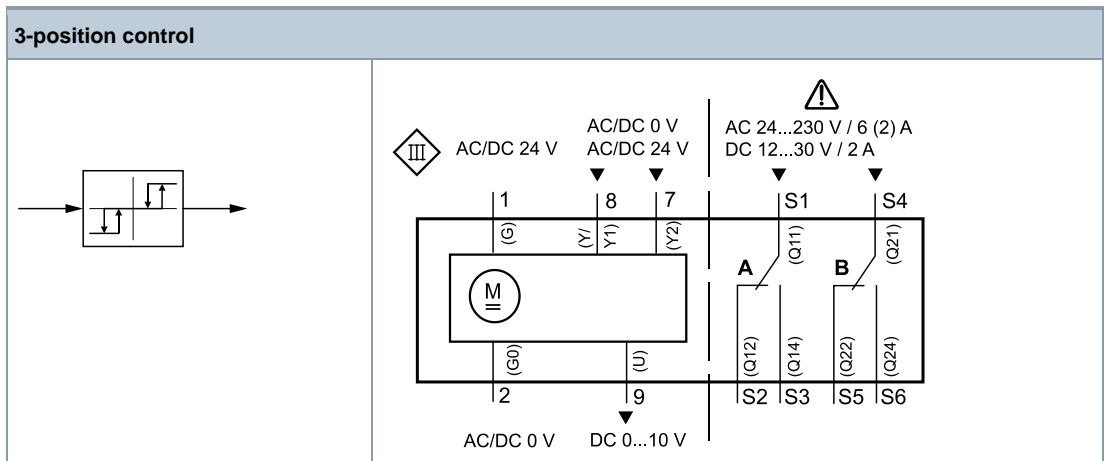
Connection cable	
Cable length	0.9 m
Cable cross-section	0.75 mm ²

Safety class and degree of protection		
Insulation class		EN 60730
	AC 230 V, auxiliary switch	II
Degree of protection of housing		IP54 as per EN 60529 (observe mounting notes)

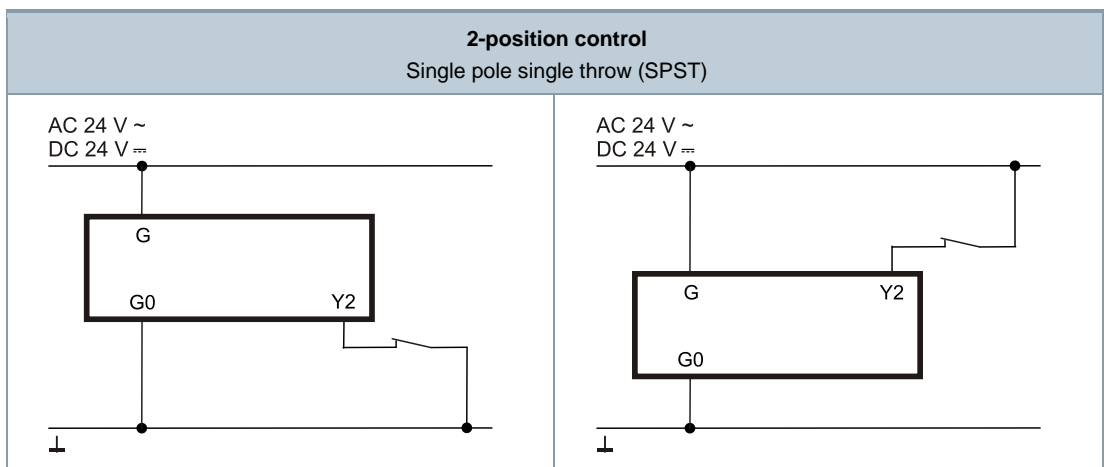
Environmental conditions		
Operation per IEC 60721-3-3	Climatic conditions	Class 3K5
	Mounting location	Interior, weather-protected
	Temperature	-32...50 °C
	Humidity, non-condensing	<95% r.h.
Transport per IEC 60721-3-2	Climatic conditions	Class 2K3
	Temperature (extended)	-32...70 °C
	Humidity, non-condensing	<95% r.h.
Storage per IEC 60721-3-1	Climatic conditions	Class 1K3
	Temperature (extended)	-32...50 °C
	Humidity, non-condensing	<95% r.h.
Mechanical conditions	Class 2M2	

Standards, directives and approvals			
Product safety:		EN 60730-2-14 Automatic electronic controls for household and similar use (Type 1)	
Electromagnetic compatibility (field of use)		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⁾	
UK conformity (UKCA)		A5W00198173A 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 A5W00136348A ¹⁾ contains data on environmentally compatible product design and assessments (RoHS compliance, materials composition, packaging, environmental benefit, disposal).	



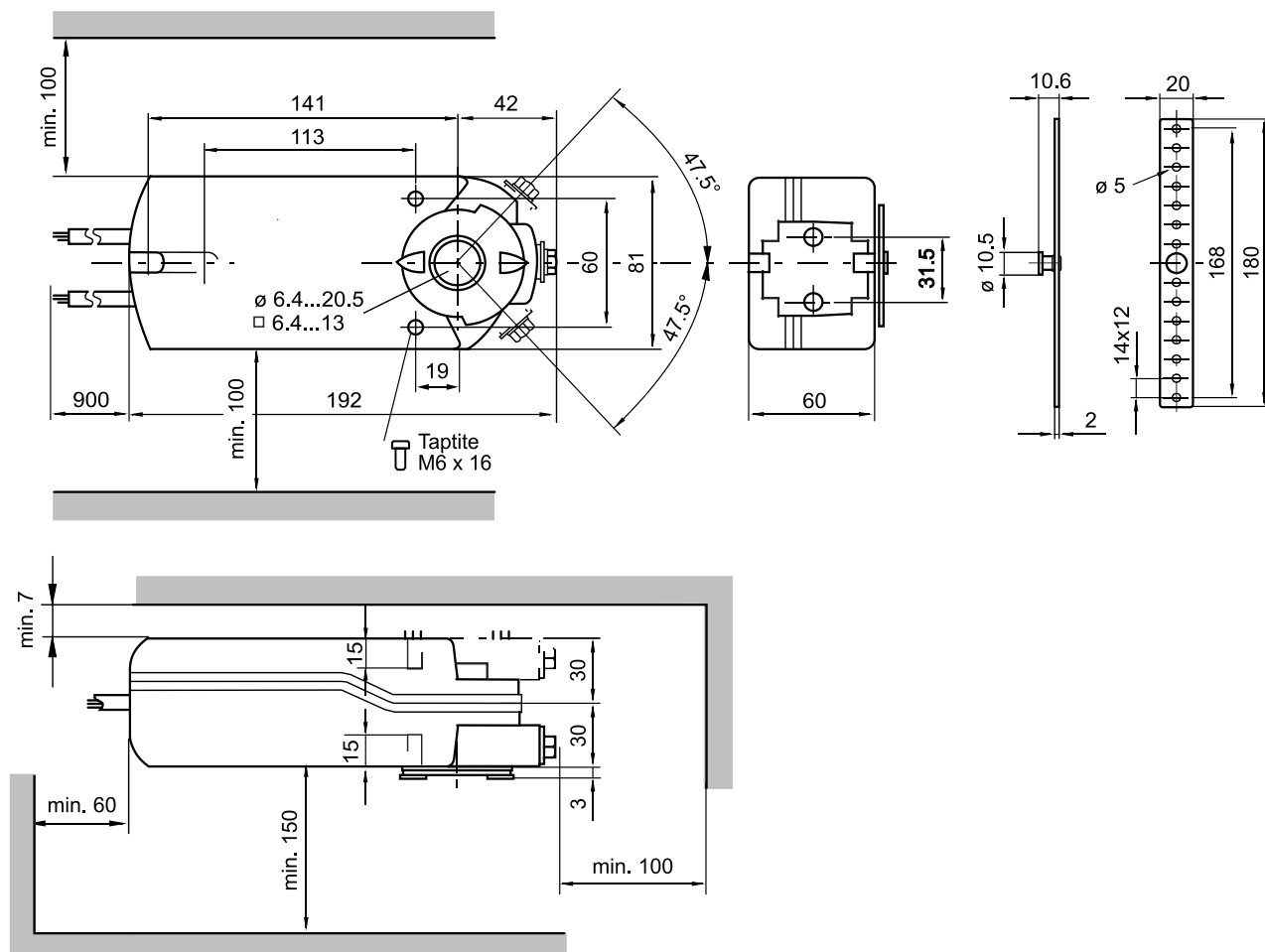
Connection diagrams



Cable designations

Connecting thread	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
	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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