



OpenAir™

Fast running actuators for air dampers

GNP19...

Fast runner rotary version with electronic fail-safe function, AC/DC 24 V

Electronic rotary actuator for 2-position, 3-position, or modulating control, nominal torque 6 Nm, at 2 s running time, with electronic fail-safe function; self-centering shaft adapter, range mechanically adjustable between 0...90°, prewired with 0.9 m long standard connection cables.

GNP196.1E with adjustable auxiliary switches for auxiliary functions.

Use

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

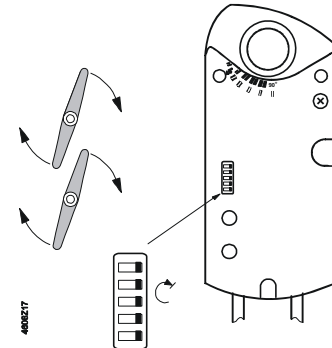
Type summary

Types	Power	Auxiliary switch	Torque	Damper size	Runtime
GNP191.1E	AC/DC 24 V	No	6 Nm	Ca. 1 m ²	2 s
GNP196.1E		Yes			

Factory setting

The actuators preset at the factory to:

- 0... 10 V
- Clockwise rotary movement
- Counter-clockwise fail-safe movement



Functions

DIL switch setting		A DIL switch is used to set the actuator's functionality.				
Siemens default setting	Modulating control		2-position control	3-position control		

Position indication: Mechanical	Rotary angle position.
Position indication: Electric.	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.
GNP196.1E auxiliary switch	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 unassembled .
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 N4697 .

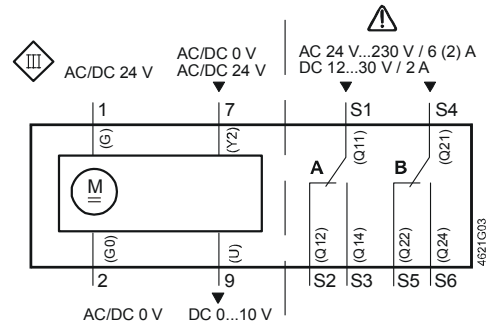
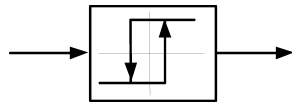
Technical data

⚠ 24 VAC/VDC supply (SELV/PELV)	Operating voltage / Frequency	AC/DC 24 V ± 20 % / 50/60 Hz	
	Power consumption:	Actuator running Hold	
Functional data	Nominal torque	6 Nm	
	Maximum torque (when blocked)	18 Nm	
	Nominal rotary angle / max. rotary angle	90° / max. 95° ± 2°	
	Runtime for 90° rotary angle	2 s (50 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 Max. permissible input voltage	250 steps for 90° AC/DC 24 V ± 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 ± 20 %	
Position indicator	Output voltage U (wires 9-2)	DC 0 (2)...10 V	
	max. output current	DC ± 1 mA	
⚠ Auxiliary switch for GAP196	Contact loading	6 A resistive, 2 A inductive	
	Voltage (no mixed operation 24 VAC / 230 VAC)	AC 24...230 V	
	Switching range for auxiliary switches	5°...90°	
	Setting increments	5°	
Connection cable	Cross-section	0.75 mm ²	
	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	
	CE Conformity		
	Electromagnetic compatibility	2004/108/EC	
	Low-voltage directive	2006/95/EC	
	Conformity		
Australian EMC Framework Radio Interference Emission Standard	Radio Communication Act 1992 AS/NZS 3548		
Dimensions	Actuator W x H x D (see Dimensions)	81 x 192 x 63 mm	
	Damper shaft:	Round	6.4...20.5 mm
		Square	6.4...13 mm
	Min. shaft length	20 mm	
Weight	Excl. packaging	1.230 kg	

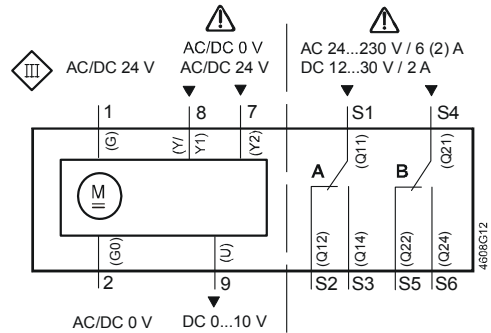
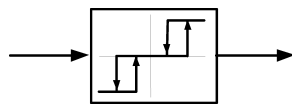
Disposal

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

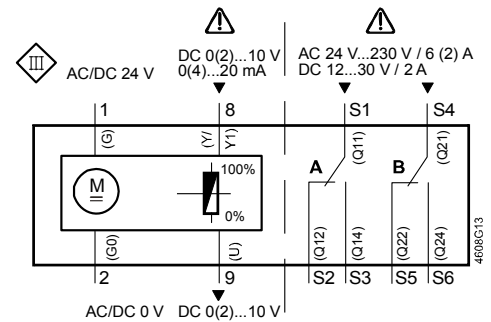
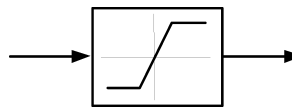
2-position control



3-position control



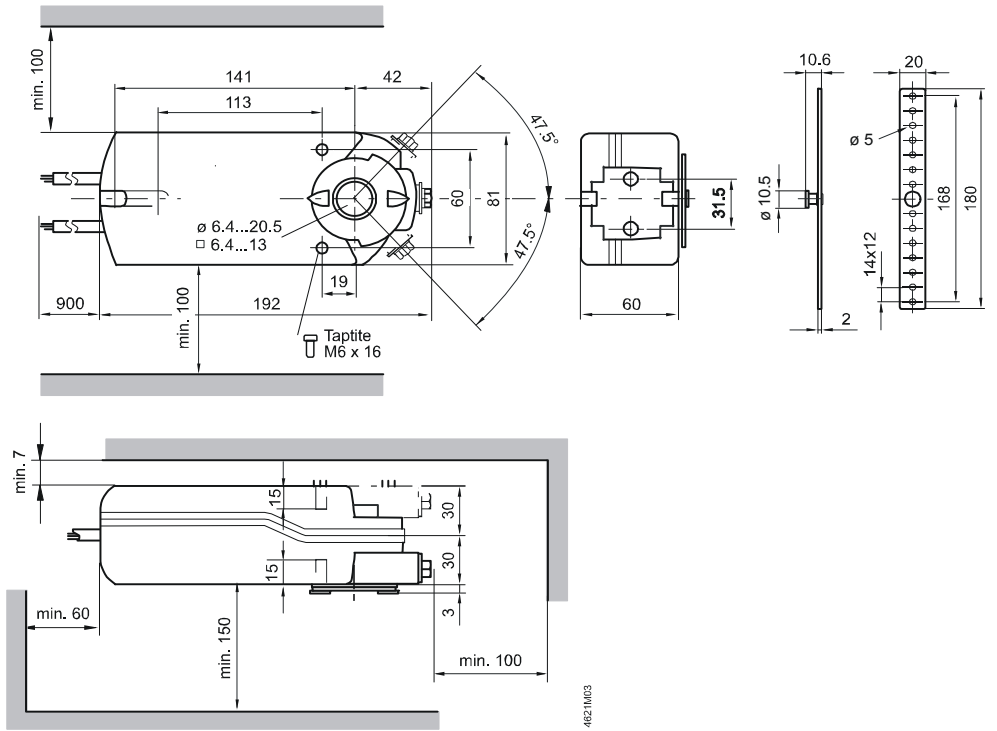
Modulating control



Cable designations

Pin	Cable				Meaning
	Code	No.	Color	Abbreviation	
Actuators AC/DC 24 V	G	1	Red	RD	AC/DC 24 V system potential
	G0	2	Black	BK	System neutral
	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
	U	9	pink	PK	Pos. signal AC/DC 0 V, AC/DC 24 V "open"
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