SIEMENS

4609

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 m^2, 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 m²**	**2 s**
GNP196.1E		**Yes**			

Note

When installing and operating rotary actuators types GNP.. in low-noise environments, check the acoustic response of the actuators operated together with the measuring and control equipment.
The combination with differential pressure sensors, sensors, and controllers may result in unwanted operational noise based on the operating settings, regardless of the given manufacturer.

Impacted applications

- Low-noise HVAC plants in general [1)]
- Supply and extract air plants
- Fume hood control plants
- Room pressure control plants

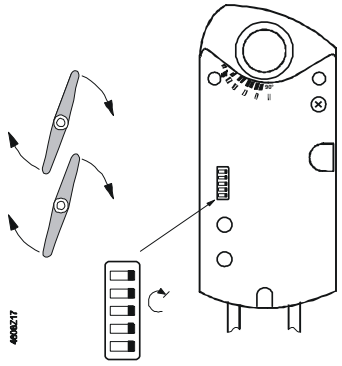
[1)] e.g. Laboratories / fume hoods, hospital rooms or similar plants

Alternative

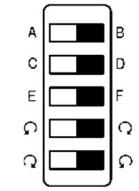
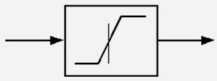
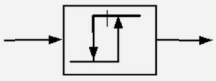
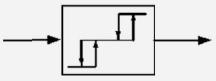
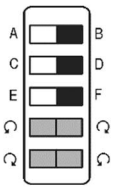
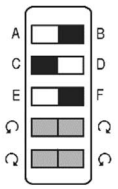
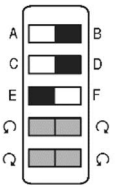
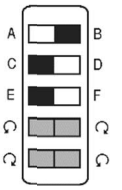
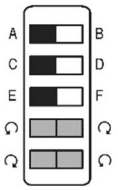
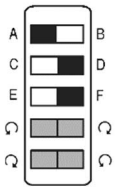
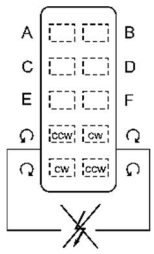
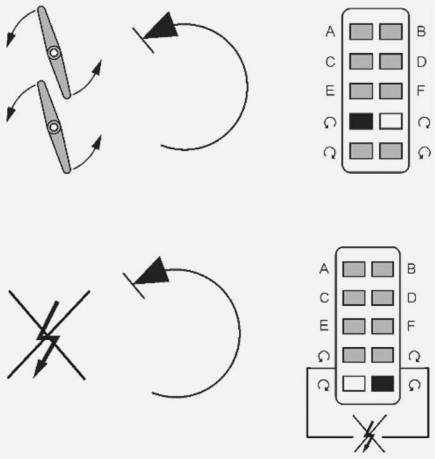
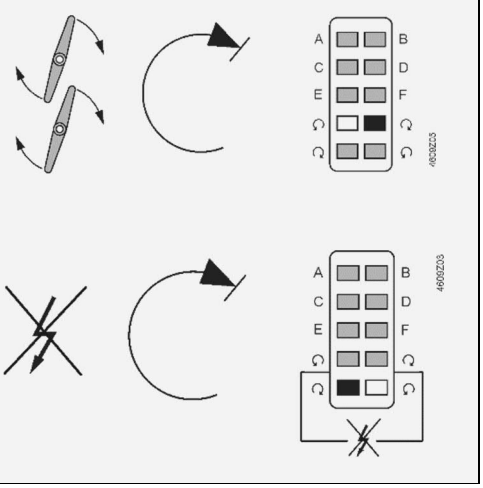
We recommend using rotary actuator HLV40.1 if the applications listed above are motorized or in the event of any general concerns regarding operational noise of GNP actuators (Contact your local Siemens representative).

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**
					
	DC 0..10 V 	**DC 2..10 V** 	**0..20 mA** 	**4..20 mA** 	**2-Pt** 	**3-Pt** 
					

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	20 VA / 13 W
		Hold	5 W
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		250 steps for 90 °
	Max. 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“
	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 GNP196.1E	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		–18...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 (Application)		For residential, commercial and industrial environments
	EU Conformity (CE)		A5W00004382 [1]
	RCM Conformity		A5W00004383 [1]
	Product environmental declaration [2]		CE1E4608en [1]
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

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

[2] The product environmental declarations contains data on environmentally compatible product design and assessments (RoHS compliance, materials composition, packaging, environmental benefit, disposal).

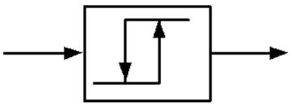
Disposal

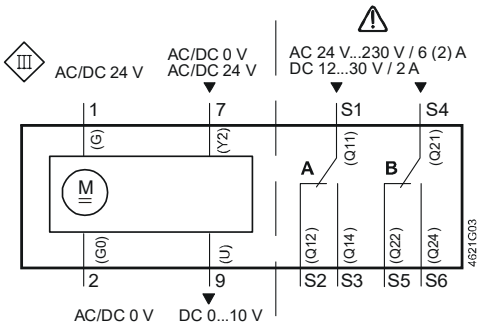
The device is considered an electronics device for disposal in terms of European Directive 2012/19/EU and may not be disposed of as domestic garbage.

- Dispose of the device through channels provided for this purpose.
- Comply with all local and currently applicable laws and regulations.

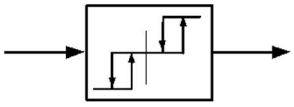
Internal diagrams

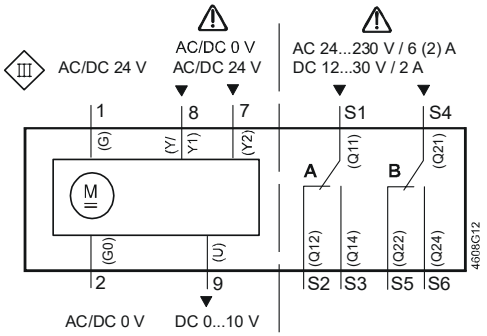
2-position control



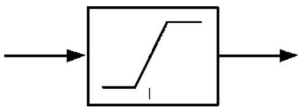


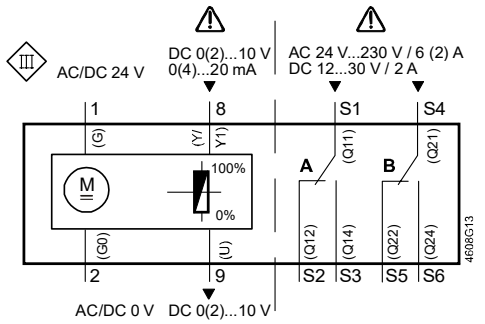
3-position control





Modulating control

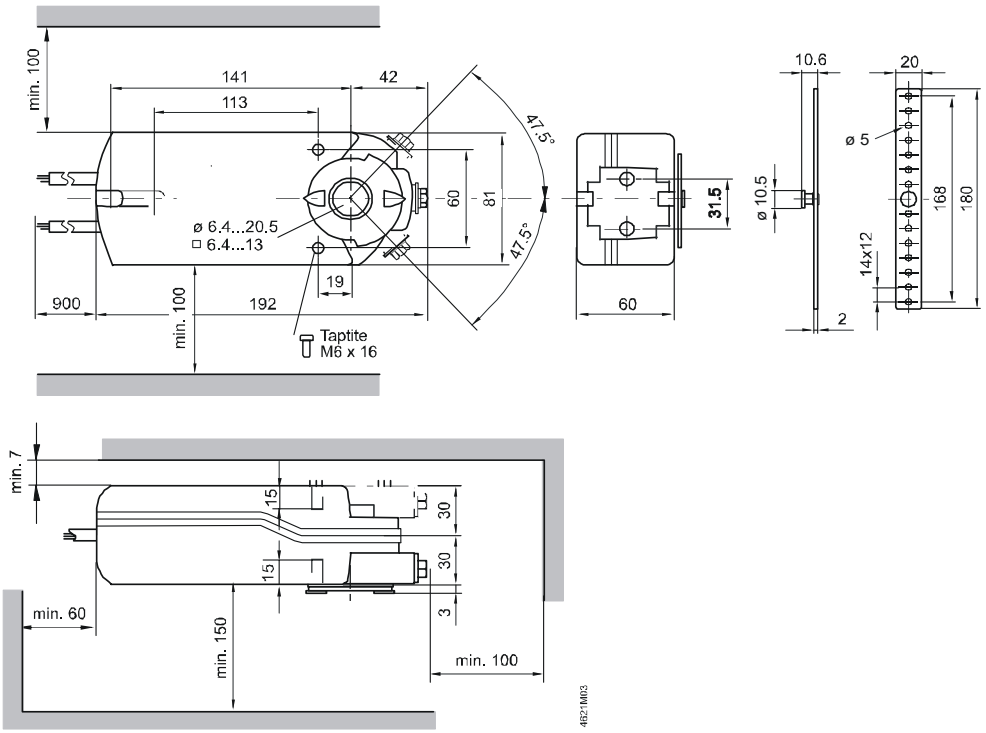




Cable designations

Pin	Cable				Meaning
	Code	No.	Color	Abbreviation	
Actuators	G	1	Red	RD	AC/DC 24 V system potential
AC/DC 24 V	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 Pos. 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 contract
	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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