



Non-Spring Return Electronic Actuators 24 VAC Two-Position or Tri-State (Floating) Control (44 & 88 in-lb) EN44C2(-S, -P), EN44C2-NP & EN88C2(-S, -P)



Description

The EN44C2 (-S, -P) & EN88C2 (-S, -P) direct coupled 24 VAC non-spring return rotary electronic actuators are designed for tri-state (floating) control or two-position control (with external relay) of dampers and valves.

Features

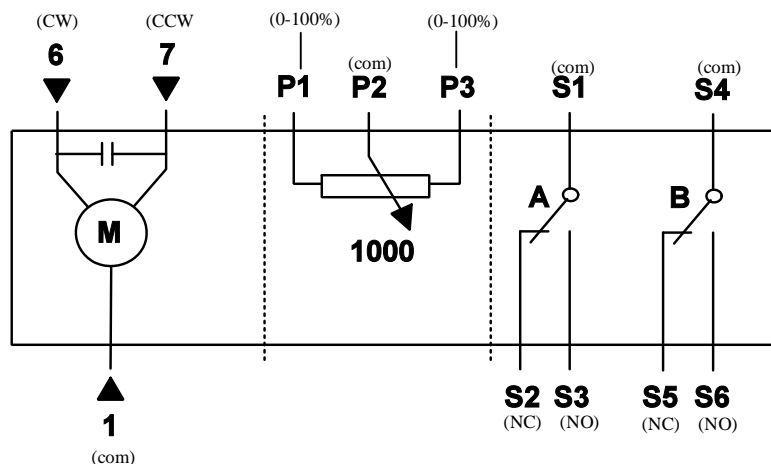
- Compact, lightweight design
- Manual override
- Non-plenum and plenum models available (plenum is standard for all 24 V models)
- UL, CSA approved; plenum versions also CE rated
- Independently adjustable dual auxiliary switches available (-S option)
- Feedback potentiometer models available (-P option)

Application

These actuators are used in constant or variable air volume installations for control of HVAC dampers or valves requiring up to 44 in-lb (5 N-m) or 88 in-lb (10 N-m) of torque.

Wiring

See Note 1



Actuator Part Number Table					
Torque	Input Signal	Cabling	24 VAC Operating Voltage		
			Standard	With Potentiometer	Dual Auxiliary Switches Only
44 in-lb (5 N-m)	Tri-state or Two-Position*	Plenum	EN44C2	EN44C2-P	EN44C2-S
44 in-lb (5 N-m)	Tri-state or Two-Position*	Non-Plenum	EN44C2-NP	—	—
88 in-lb (10 N-m)	Tri-state or Two-Position*	Plenum	EN88C2	EN88C2-P	EN88C2-S

Notes:

* For two-position use Form C relay.

1 Do not ground switched legs (6 & 7)



Non-Spring Return Electronic Actuators 24 VAC Two-Position or Tri-State (Floating) Control (44 & 88 in-lb) EN44C2(-S, -P), EN44C2-NP & EN88C2(-S, -P)

Technical Data	EN44C2-NP, EN44C2(-S, -P)	EN88C2(-S, -P)
Power supply	24 VAC +20%, -15% 50/60 Hz	
Transformer sizing	2.3 VA (class 2 power source req. for UL)	
Electrical connection	(-NP) Non-Plenum cable Standard: 3 ft plenum rated cable; conduit connector optional	
Angle of rotation	0-95°, adj. stops	
Torque at rated voltage	44 in-lb min. (5 N-m)	88 in-lb min. (10 N-m)
Direction of rotation	reversible with wiring	
Position indication	clip on indicator	
Shaft size	3/8" to 5/8" (8 mm to 16 mm) round 1/4" to 1/2" (6 mm to 12.7 mm) square 9/16" (15 mm) hex	
Minimum shaft length	3/4" (20 mm)	
Auxiliary features		
– Feedback potentiometer (-P option)	0 to 1000 Ω , <10 mA	
– Auxiliary switches (-S option)	plenum: 4 A resistive, 24 VAC plenum: 2 A inductive, 24 VAC	
Switch range (-S option)*		
– Switch A	0° to 90° with 5° intervals	
– Recommended range usage	0° to 45°	
– Factory setting	5°	
– Switching hysteresis	2°	
Switch range (-S option)*		
– Switch B	0° to 90° with 5° intervals	
– Recommended range usage	45° to 90°	
– Factory setting	85°	
– Switching hysteresis	2°	
Running time	90 secs at 60 Hz (108 secs at 50 Hz)	125 secs at 60 Hz (155 secs at 50 Hz)
Humidity	95% RH noncondensing	
Housing type**	NEMA type 2/IP54 according to EN60529	
Housing material	Durable plastic	
Ambient temperature	-22°F to 130°F (-30°C to 55°C)	
Storage temperature	-22°F to 140°F (-30°C to 60°C)	
Noise level	<35 dBA	
Servicing	maintenance free	
Agency ratings	UL 873 listed, CE-UL certified to CSA C22.2 No. 24-93	
CE conformity***	Electromagnetic Compatibility (EMC): 89/336/EEC Emissions standards: EN50081-1 Immunity standards: EN50082-2	
Quality standard	ISO 9002	
Weight	1.06 lbs (0.48 kg)	

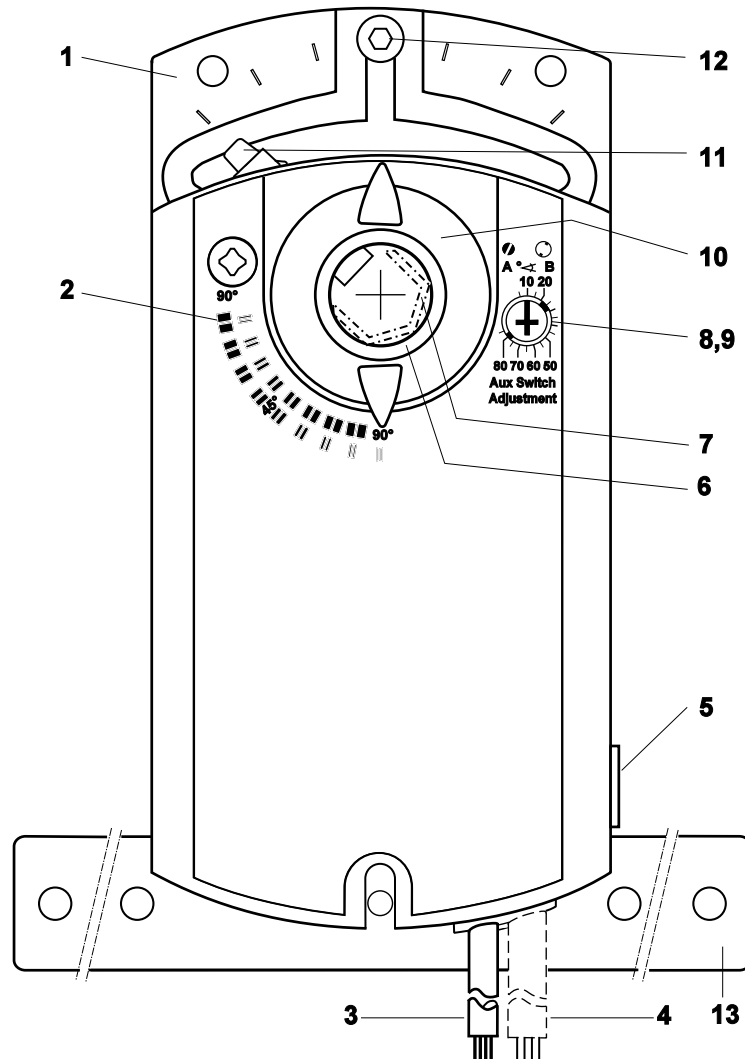
Notes:

- ! * SWITCH WARNING: Apply only main voltage or only safety extra-low voltage (SELV) to switching outputs of auxiliary switches A and B. Mixed operation is not permissible.
- ** DEI has optional NEMA 4/4X type housings for these actuators. Call DEI for information.
- ! *** CE WARNING: All wiring of these actuators must be safety extra-low voltage (SELV/PELV) in accordance with EN60730.



**Non-Spring Return Electronic Actuators 24 VAC
Two-Position or Tri-State (Floating) Control (44 & 88 in-lb)
EN44C2(-S, -P), EN44C2-NP & EN88C2(-S, -P)**

Actuator Components



Legend

1. Base plate
2. Positioning scale for angle of rotation
3. Connection cables
4. Connection cables
("-S" and "-P" options)
5. Manual override
6. Coupling bushing
7. Centering element for EN44 & EN88
(shaft diam. 8 mm to 10 mm)
8. Auxiliary switch A ("-S" option)
9. Auxiliary switch B ("-S" option)
10. Position indicator
11. Adjustment lever with locking screw
12. Adjusting screw for mechanical
range stop
13. Mounting bracket

Operation

A floating control signal controls the actuator. The actuator's angle of rotation is proportional to the length of time the signal is applied. A 24 VAC control signal to wire 6 (Y1) causes the actuator coupling to rotate clockwise. A 24 VAC control signal to wire 7 (Y2) causes the actuator coupling to rotate counterclockwise.

To reverse the direction of rotation, the wires 6 and 7 (Y1 and Y2) may be interchanged.

In the event of a power failure, or with no control voltage, the actuator holds its current position.

Life Expectancy

An improperly-tuned control loop will cause excessive repositioning that will shorten the life of the actuator.

Note:

- For wiring, switch and zero/span adjustments, refer to Type A - EN44, EN88 Installation Instructions.