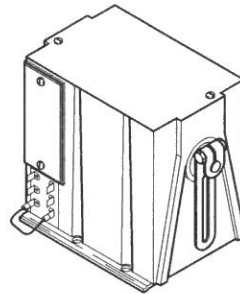


Electronic Gear Train Economizer Actuator

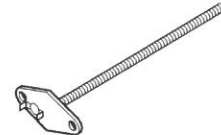
This actuator provides modulating operation of dampers and other equipment which require the return to normal position upon power interruption. Adjustable minimum position control 0 to 90°. Replaces Honeywell M-7415A and functionally replaces White-Rodgers 3420-4.

Features:

- Proportional damper economizer actuator with built-in controller.
- Adjustable mixed air setpoint, throttling range, minimum positions, and travel.
- Spring return.



MU-12313



Thermistor Sensor

BDHE-55

Model Chart

Model No.	Description	Watts		VA	
		Running	Holding	Running	Holding
MU-12313	Round output shaft	14.4	9.6	14.2	9.2
MU-12313-100	Square output shaft				

Specifications

Control circuit	Two-wire.
Mixed or discharge air sensor	Thermistor (8 in. long) with 1/4 in. male quick connectors and integral mounting flange; 10K Ω at 77°F (25°C), negative temperature coefficient. Supplied with actuator.
MA (Mixed Air) setpoint	Dial adjustable 40 to 65°F (4 to 18°C); factory set at 55°F (18°C).
Throttling range	Factory set. Refer to Throttling Ranges Table.
Power supply	24 Vac, Class 2 (+10, -15% for 0 to 90° travel; +10, -10% for 90 to 180° travel), 60 Hz 24 Vac, Class 2 (+10, -10%), 50 Hz.
Torque	
Rated	25 lb-in. (2.8 N-m).
Limit	40 lb-in. (4.5 N-m) under stall conditions.
Nominal Damper Area	Actuator sizing should be done in accordance with damper manufacturer's specifications.
Shaft output	Dual output; either shaft can be used if torque limit is not exceeded.
Environment	
Shaft rotation	CCW when power is applied. (The front of the actuator is defined as the right end when facing the field wiring terminals.) Maximum shaft rotation field adjustable 75°, 90°, 110°, 160°, 180°; factory set 90°. When used with 50 Hz power supply, rotation is limited to 75° or 90° adjustments.
Minimum position	Factory set 22°. Dial adjustable 0 to 90°.
Timing	
Powered	28 sec/90°.
Spring return	18 sec/90°.
Environment	
Ambient temperature limits	Shipping and storage: -40 to 160°F (-40 to 71°C). Operating: -40 to 140°F (-40 to 60°C).
Humidity	5 to 95% RH, non-condensing.
Locations	NEMA Type 1 (NEMA 3R with AM-219 installed and mounted in vertical position).
Vibration	Maximum 1G in any plane.
Wiring connections	Side mounted #6 self tapping screw 1/4 in. tab.

Specifications (Continued)

Case	Glass reinforced thermoplastic (PET) cover, plated steel case.
Mounting	Any position. Five 9/32 in. (7.1 mm) mounting holes provided.
Crank arm for actuator	AM-112 included with actuator. 3/8 in. (9.5 mm) slot provides for adjustable radius from 7/8 in. (22 mm) to 3-1/8 in. (79 mm).
Dimensions	5-1/2 H x 5 W x 7-9/32 D in. (140 x 127 x 185 mm). 3/8 in. (9.5 mm) shaft diameter.
General Instructions	Refer to F-22174.

Throttling Ranges^a

Degree Rotation	T.R. as Factory Supplied F°(C°)	T.R. with Jumper J1 Removed F° (C°)
75	7 (3.8)	3.5 (1.9)
90	8 (4.4)	4 (2.2)
110	10 (5.5)	5 (2.8)
160	14 (7.2)	7 (3.8)
180	16 (8.9)	8 (4.4)

^a Number of degrees change required at the sensor in order to produce the maximum rotation of the actuator output shaft.

Accessories

Model No.	Description
Damper Linkage Accessories	
AD-931-105	Min positioner.
AM-111	Crank arm for 5/16 in. diameter damper shaft.
AM-112	Crank arm for 3/8 in. diameter damper or MU-12313 actuator shaft.
AM-113	Crank arm for MU-12313 or 1/2 in. diameter damper shaft.
AM-115	Crank arm for 7/16 in. diameter damper shaft.
AM-122	Linkage connector straight type.
AM-123	Damper clip.
AM-125	5/16 in. diameter x 20 in. damper rod.
AM-125-048	5/16 in. diameter x 48 in. damper rod.
AM-132	Ball joint connector.
AM-219	Conduit cover kit.
AM-230	Crank arm for MU-12313-100.
AM-301	90° mounting bracket.
BDHE-55	Thermistor sensor.

Typical Applications

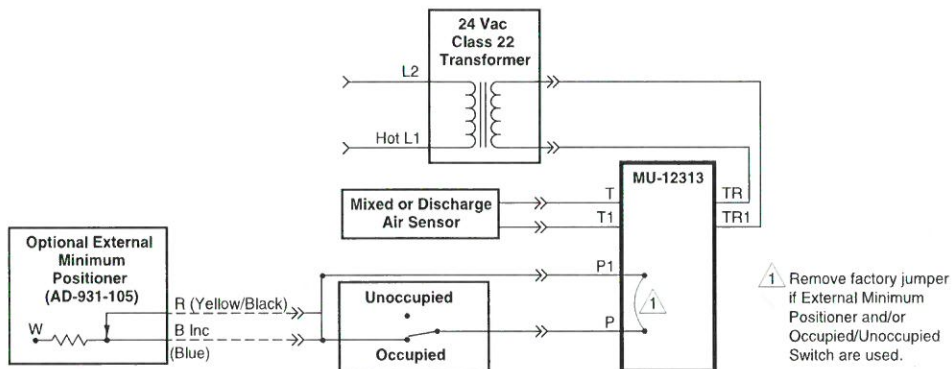


Figure 1 Typical Wiring for MU-12313.