# **<b>Bray** COMMERCIAL

# AU Series Industrial Electric Actuators 21,300 in-lb to 70,800 in-lb

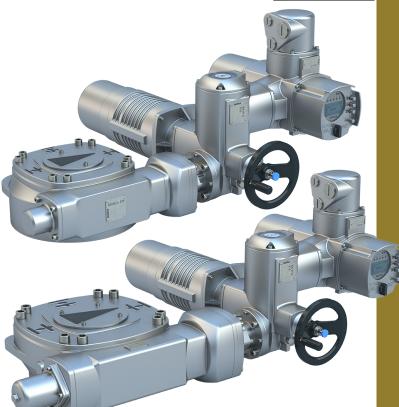
# Application

AU Series Electric actuators provide precise, durable control of quarter turn valves including rubber seated butterfly valves, high performance butterfly valves and industrial ball valves. The compact industrial housing is rated to NEMA 4X (IP 67) standards for outdoor use. All models include integrated controls and a manual override handwheel.

The standard AU models are 120V single phase. Three phase units are available as an option. All AU series actuators include two auxiliary switches, torque switches, a position indicator and a heater. Modulating units provide position feedback as standard.

AU series actuators mount directly to Bray butterfly valves and ball valves without the need for adapter bracket. Thermal overload protection is provided by means of PTC thermistors connected directly to the motor windings.





## **Features and Benefits**

• Heavy Duty Design

Rated for 15K full stroke cycles, 2.5M repositions

- Manual Declutchable Override Handwheel
  - Manual positioning without disconnecting power
- Position and Motion Indicator Lights For operation feedback
- Integrated Digital Display Controls
   Local menu driven actuator operation without
   DIP switches

## **Model Number Selection Chart**

Model Number	Torque in.lbs.	On/ Off	Modulating
7AU-2130	21,300	•	
AU-2130SV	21,300		•
AU-4068	40,680	•	
AU-4068SV	40,000		•
AU-7080	70,800	•	
AU-7080SV	70,800		•

Note - Heaters and Auxiliary Switches are standard with all models.



#### **AU Series - Technical Specifications**

	ons - Actuator				
Control Type	AU-xxxx	On/Off or Floating			
control type	AU-xxxxSV	Modulating			
Power Supply	120 VAC, 60 Hz, +/- 10%, Single-Phase, Reversible, Permanent Split Capacitor Induction Motor				
	Full Load	AU-2130 5.9 A			
Current Draw		AU-4068 & AU-7080 6.4 A			
	Locked Rotor	14 A			
Motor Protection	1 Ph-1 thermal switch 284°F (140°C) Class F insulation, tropicalized winding				
Control Module	On/Off, Floating	110 - 120 VAC			
Voltage	Modulating	24 VDC			
Output Aux. Voltage	On/Off, Floating	115 VAC - 30 mA			
output Aux. voltage	Modulating	24 VDC - 100 mA			
Feedback Signal	4 to 20 mA				
Torque	21,300 in-lb to 70,800 in-lb (2,407 Nm to 8,000 Nm)				
Control Input Signal	DI Input Signal Modulating 4 to 20 mA				
Output Contacts	6 Output contacts: 6 NO/NC without common 5A				
Output Signals	Default Setting - Fault, End pos. CLOSED End pos. OPEN, Selector sw. REMOTE, Torque fault CLOSE, Torque fault OPEN				
Taurainal Chain	Power Terminals	8 to 10 AWG (6 to 10 mm <sup>2</sup> )			
Terminal Strip	Controls Contacts	14 AWG (2.5 mm <sup>2</sup> )			
Enclosure	NEMA types 6P (IP68) Corrosion Protection: KS				
llester	On/Off, Floating	120 V internal (12.5 W)			
Heater	Modulating	24 V internal (12.5 W)			
<b>Conduit Entries</b>	Plug/socket 100 mm, 2 × 3/4" NPT; 1 × 1-1/4" NPT				
Operating Time	60 Seconds				
Angle of Rotation	92° maximum				
Manual Operation	Declutchable Override Handwheel	To close the valve, turn handwheel clockwise. Drive shaft (valve) turns clockwise in close direction.			
Dimensions	See Page 4				
	AU-2130	158 lbs. (72 kg)			
Weights	AU-4068	181 lbs. (82 kg)			
	AU-7080	278 lbs. (127 kg)			
Ambient Temperature	-13°F to 158°F (-25°C to 70°C)				
Fail Position	Loss of supply power - Fail-in-place				
	On/Off, Floating	S2 -15 min continuous, max. six starts/minute			
Duty Cycle	Modulating	S4 – 25% Intermittent duty			
Life Cycle	15,000 Full Stroke Cycles; 2,500,000 Repositions at Rated Running Torque				
Certifications	CE				
Warranty	3 Years limited from time of shipment.				

Disclaimer - The performance specifications are nominal and conform to acceptable industry standards. For application at conditions beyond these specifications consult the local Bray office. Bray, Inc. shall not be liable for damages resulting from misapplication or misuse of its products.

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#### AU Series - Wiring (On/Off)

	FII	ELD WIRING	G   AC	Tι	JATOR
NOTE #1	DO	POWER LIVE O SUPPLY NUETRAL O	— — — — —	/1 D	I 120VAC LIVE I 120VAC NEUTRAL /A
NOTE #3	DI	GROUND C- 120VAC LIVE O 30mA MAX NUETRAL O		2 D	 0 120VAC LIVE 0 120VAC NEUTRAL //A
NOTE #2	DO	CLOSE LIVE O OPEN LIVE O STOP LIVE O NEUTRAL O EMERGENCY LIVE O		4 D 5 D 6 D 7 D 8 D	120VAC         LIVE           1         120VAC         LIVE           1         120VAC         NEUTRAL
NOTE #4	DI	FAULT N.C.		4 D 5 D	/A O VOLTAGE FREE CONTACT RATING: 250V 5AMP MAX O VOLTAGE FREE CONTACT RATING: 250V 5AMP MAX
NOTE <b>#</b> 5	DI	COM         Com           CLOSE         N.C.           INDICATION         N.O.           COM         COM           N.C.         O		7 D 8 D 9 D	<ul> <li>VOLTAGE FREE CONTACT RATING: 250V 5AMP MAX</li> </ul>
NOTE #5	DI	OPEN N.O. O INDICATION N.O. O POSITION 4-20mA (+) O FEEDBACK		21 D 22 D 23 A	<ul> <li>VOLTAGE FREE CONTACT RATING: 250V 5AMP MAX</li> <li>VOLTAGE FREE CONTACT RATING: 250V 5AMP MAX</li> <li>(+) 4-20mA</li></ul>
NOTE #6	AI	TORQUE         4−20mA (+)           FEEDBACK         (−)		N 29 A 50 A	0 (-) 4-20mA © 500 OHM MAX /A 0 (+) 4-20mA © 500 OHM MAX 0 (-) 4-20mA © 500 OHM MAX /A
NOTE #5	DI	REMOTE N.C. O INDICATION N.O. O COM O		53 D 54 D	<ul> <li>VOLTAGE FREE CONTACT RATING: 250V 5AMP MAX</li> <li>VOLTAGE FREE CONTACT RATING: 250V 5AMP MAX</li> <li>VOLTAGE FREE CONTACT RATING: 250V 5AMP MAX</li> </ul>
NOTE #5	DI	TORQUE N.C. O CLOSE N.O. O INDICATION COM O		56 D	0 VOLTAGE FREE CONTACT RATING: 250V 5AMP MAX 0 VOLTAGE FREE CONTACT RATING: 250V 5AMP MAX 0 VOLTAGE FREE CONTACT RATING: 250V 5AMP MAX
NOTE #5	DI	TORQUE N.C. OPEN N.O. OPINICATION COM O		59 D	<ul> <li>VOLTAGE FREE CONTACT RATING: 250V 5AMP MAX</li> <li>VOLTAGE FREE CONTACT RATING: 250V 5AMP MAX</li> <li>VOLTAGE FREE CONTACT RATING: 250V 5AMP MAX</li> <li>/A</li> </ul>
LEGEND: TERMINAL SYMBOLS I 0 •					

FIELD WIRING FCTORY WIRING GROUND

#### CALIBRATION SEQUENCE:

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ACTUATOR THAT WAS FACTORY MOUNTED TO VALVE WAS CALIBRATED BY THE FACTORY IN ACCORDANCE WITH THE APPLICABLE AUMA OPERATION MANUAL.

#### NOTES:

1. POWER INPUT FROM FIELD CONTROL PANEL TO ACTUATOR

- 2. 120VAC COMMAND SIGNAL INPUT FROM FIELD CONTROL PANEL TO ACTUATOR (LIVE AND NEUTRAL BOTH REQUIRED FOR OPERATION) 3. OPTIONAL: POWER OUTPUT FROM ACTUATOR TO BE USED BY FIELD CONTROL PANEL CONTACTS FOR ACTUATOR INPUTS
- 4. OPTIONAL: 120VAC COMMAND SIGNAL INPUT FROM FIELD CONTROL PANEL TO ACTUATOR (LIVE AND NEUTRAL BOTH REQUIRED FOR OPERATION). FUNCTIONAL PURPOSE IS DETERMINED BY PROGRAMMING SELECTION 5. OPTIONAL: DIGITAL OUTPUT FROM ACTUATOR, VOLTAGE FREE CONTACT. RATING: 250V 5AMP 6. OPTIONAL: ANALOG OUTPUT FROM ACTUATOR TO BE USED BY FIELD PLC FROM MONITORING. 4-20mA @ 500 OHM MAX



AU Series - Wiring (Modulating)				
FIELD WIRING ACTUATOR				
NOTE #1	DO	POWER LIVE O SUPPLY NUETRAL O		
NOTE #3	DI	24VDC (+)		
NOTE #5		MODE 24VDC (+)		
	DO	CLOSE         24VDC (+)             OPEN         24VDC (+)		
NOTE #4		STOP 24VDC (+)		
		0 VDC (-) 0		
NOTE #5	DO	EMERGENCY 24VDC (+)		
		0 VDC (-) 0+		
NOTE #2	AO	COMMAND 0/4-20mA (+)	CABLE 12 AI (+) 0/4-20mA @ 243 OHM	
	~~	SIGNAL (-) OF	-13 Al (-) 0/4-20mA <b>©</b> 243 OHM	
NOTE #6	DI	FAULT N.C. OF		
NOTE NO		CLOSE N.C.		
NOTE #6	DI	INDICATION N.O. OF		
		N.C. Ø		
NOTE #6	DI	OPEN N.O. O		
		COM @		
NOTE #7	AI	POSITION 4-20mA (+) FEEDBACK (-)	CABLE 24 AO (-) 4-20mA @ 500 OHM MAX	
			N/A	
NOTE #7	AI	TORQUE 4-20mA (+) SHIELDED	CABLE 29 AO (+) 4-20mA © 500 OHM MAX CABLE 30 AO (-) 4-20mA © 500 OHM MAX	
		REMOTE N.C.		
NOTE #6	DI	INDICATION N.O.		
NOTE #6	DI	CLOSE N.O. 0		
NOTE #6	DI	TORQUE         N.C.         —         —           OPEN         N.O.         —         —         —		
NOIE #0		INDICATION COM OF		
			BCD-WD-A049	
LEGEN		_	BCD-WD-A049	
TERMINA FIELD WI		BOLS X Ø •		

FIELD WIRING FCTORY WIRING

GROUND

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CALIBRATION SEQUENCE: ACTUATOR THAT WAS FACTORY MOUNTED TO VALVE WAS CALIBRATED BY THE FACTORY IN ACCORDANCE WITH THE APPLICABLE AUMA OPERATION MANUAL.

#### NOTES:

AU 4

NOTES: 1. POWER INPUT FROM FIELD CONTROL PANEL TO ACTUATOR 2. 0/4-20mA COMMAND SIGNAL INPUT FROM FIELD CONTROL PANEL TO ACTUATOR 3. OPTIONAL: POWER OUTPUT FROM ACTUATOR TO BE USED BY FIELD CONTROL PANEL CONTACTS FOR ACTUATOR INPUTS 4. OPTIONAL: 24VDC COMMAND SIGNAL INPUT FROM FIELD CONTROL PANEL TO ACTUATOR (POSITIVE (+) AND NEGATIVE (-) BOTH REQUIRED FOR OPERATION) 5. OPTIONAL: 24VDC COMMAND SIGNAL INPUT FROM FIELD CONTROL PANEL TO ACTUATOR (POSITIVE (+) AND NEGATIVE (-) BOTH REQUIRED FOR OPERATION). FUNCTIONAL 24VDC COMMAND SIGNAL INPUT FROM FIELD CONTROL PANEL TO ACTUATOR (POSITIVE (+) AND NEGATIVE (-) BOTH REQUIRED FOR OPERATION). FUNCTIONAL PURPOSE IS DETERMINED BY PROGRAMMING SELECTION 6. OPTIONAL: DIGITAL OUTPUT FROM ACTUATOR, VOLTAGE FREE CONTACT. RATING: 250V 5AMP 7. OPTIONAL: ANALOG OUTPUT FROM ACTUATOR TO BE USED BY FIELD PLC FROM MONITORING. 4-20mA @ 500 OHM MAX



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## AU Series - Dimensions - in. [mm]

AU-2130

