

SERIES 6A ELECTRO-PNEUMATIC POSITIONERS

Precision digital control with proven reliability Bray's Series 6A positioners were designed with ease of installation, simple calibration, efficiency and economy in mind. Units for rotary single acting and double acting actuators are offered as standard. Intrinsically safe versions are also available.

Bray's BUS positioners offer all Series 6A features plus increased network communication and remote access to positioner parameters and diagnostics.

On-Line Adaptive Control: During operation, the unit continually optimizes control behaviors and travel times in response to changes in line media pressure.

Diagnostics: Bray's Series 6A positioners feature corrective and preventative maintenance self-diagnostic checks. All diagnostics run constantly, may be continually monitored, and recorded.

Air Supply Monitor: An additional feature of the Series 6A is an internal monitor that transmits a fault signal alarm if the air supply fails. The alarm is shown locally on the LCD and may be sent to the remote control panel.

Local Position Adjustment: Valve position can be manually adjusted locally by removing the housing cover, then using the push buttons to override the remote command signal.

Flow Restrictors: Precise control of even the smallest pneumatic actuators through internal flow restrictors.

Position Indicator: In addition to the LCD display, valve position is clearly shown over a distance by a yellow indicator.

Locking Device: For high vibration applications, the Series 6A features, as standard, a friction clutch locking device.

EXPLOSION PROOF UNITS

Designed for hazardous and severe applications, Series 6A explosion proof positioners offer all the features of the waterproof units in a flame-proof enclosure.

The automatic calibration keypad push buttons in the explosion proof units are externally mounted and easily accessible behind a flap. The units can be controlled locally, even during operation, without removing the housing cover. The LCD display is viewed from behind a sodium glass explosion proof window.

Waterproof/Explosion Proof enclosures meet NEMA 4, 4x, 7 & 9 specifications. These enclosures are constructed of die cast aluminum with an epoxy coating for chemical and corrosion protection. A waterproof Stainless Steel enclosure is available upon request.



MODULAR ACCESSORIES

Gauge Manifold: An externally mounted gauge manifold is offered with up to three gauges to measure air supply and the actuator input and output pressures.

Volume Boosters: These modules increase air volume output and decrease response time.

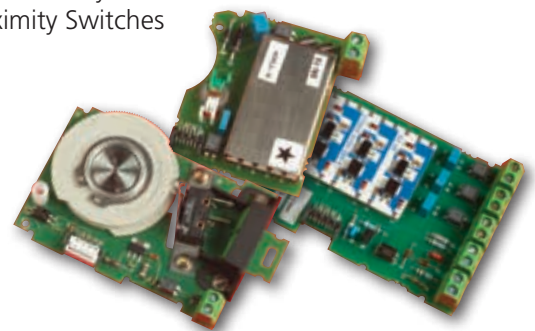
OPTIONAL BOARDS

These optional boards provide additional information and features and can be easily installed in the field.

Retransmission Module (IY): This 4-20 mA DC output board indicates valve position to the control room.

Programmable Electronic Switches (Alarm): Two semiconductor switch outputs and one alarm output may be programmed to activate at various travel positions. One digital input is also included.

Limit Switches: For cam activated indication of actuator travel limits, two output formats are offered: Mechanical Switches or Intrinsically Safe Inductive Proximity Switches (SIA).

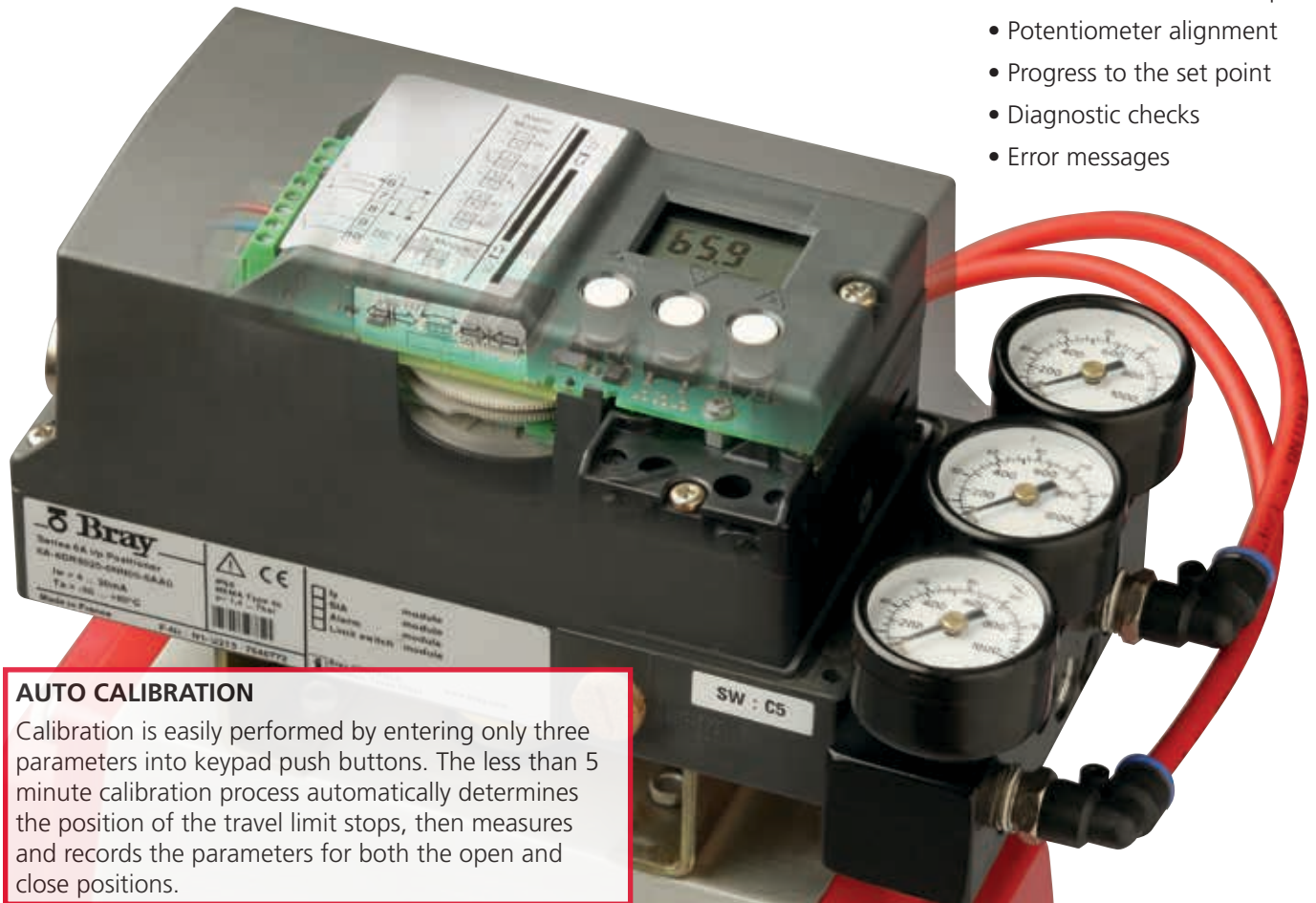


Enclosures: The standard waterproof enclosure is constructed of a durable, lightweight polymer, providing excellent chemical and corrosion resistance.

LCD Display & Keypad: Provides visual confirmation of valve position in precise one degree increments, operating status and keypad entries with the housing cover in place. The positioner operating mode (automatic or manual) and alarm messages are also shown.

With the housing cover removed, the keypad push buttons are accessible to perform a variety of functions:

- Confirmation of the set point
- Potentiometer alignment
- Progress to the set point
- Diagnostic checks
- Error messages



AUTO CALIBRATION

Calibration is easily performed by entering only three parameters into keypad push buttons. The less than 5 minute calibration process automatically determines the position of the travel limit stops, then measures and records the parameters for both the open and close positions.

SERIES 6A WATERPROOF UNITS - SPECIFICATIONS

Supply Pressure [Max]	20 - 102psi (1.4-7Bar)	
Air Consumption (80psi)	<0.00035 scfm (.00275 sccm)	
Input Signal	Analog	4-20 mADC
	BUS	HART, Foundation Fieldbus, Profibus PA
Connections	Supply	¼" NPT (G ¼")
	Signal	2 conduit entries 1/2" NPT (M20x1.5)
Resolution	<0.05%	
Repeatability	0.32%	
Hysteresis	<0.2%	
Temperature Range	-22°F to +176°F (-30°C to +80°C)	
Weight	2.0 lbs. (0.9 kg)	

Control Element Type	Piezoelectric	
EMC Requirements	EN 61326/A1 Appendix A.1 NAMUR NE21 August 98	
Protection Class	NEMA 4, 4x and IP66	
Materials	Housing	Fiberglass reinforced polymer with metalized coated interior for EMC protection
	Housing Fasteners	Stainless Steel
	Position Indicator	ABS polymer
Positioner Mounting	VDI/VE 3845 (NAMUR)	
Available Approvals	FM, CSA, CE, ATEX	

SERIES 6P P/P POSITIONER

DOUBLE ACTING AND SPRING RETURN ACTUATORS



The Bray Series 6P positioner provides outstanding control for a wide range of quarter-turn valves. This design provides fast, sensitive response characteristics to meet the most demanding control objectives using a 3-15 psi pneumatic control signal. A

high visibility dome position indicator and 3 gauges are provided as standard.

APPLICATIONS

Bray Series 6P positioners are used to control quarter-turn control valves such as butterfly and ball valves (standard and segmented) and its sensitive two-stage relay makes it ideal for precise damper control applications. Specify Bray Series 6P whenever valve positioning and sensitivity is critical.

For modulating control of valve positions, the Series 6P automatically positions the valve to precise angles between 0° and 90° in response to a pneumatic input signal. The standard positioner is Double Acting but can be easily converted to Single Acting/Spring Return. The 6P also has Split Range capabilities and an easy to adjust Span and Zero.

MOUNTING & MATERIALS

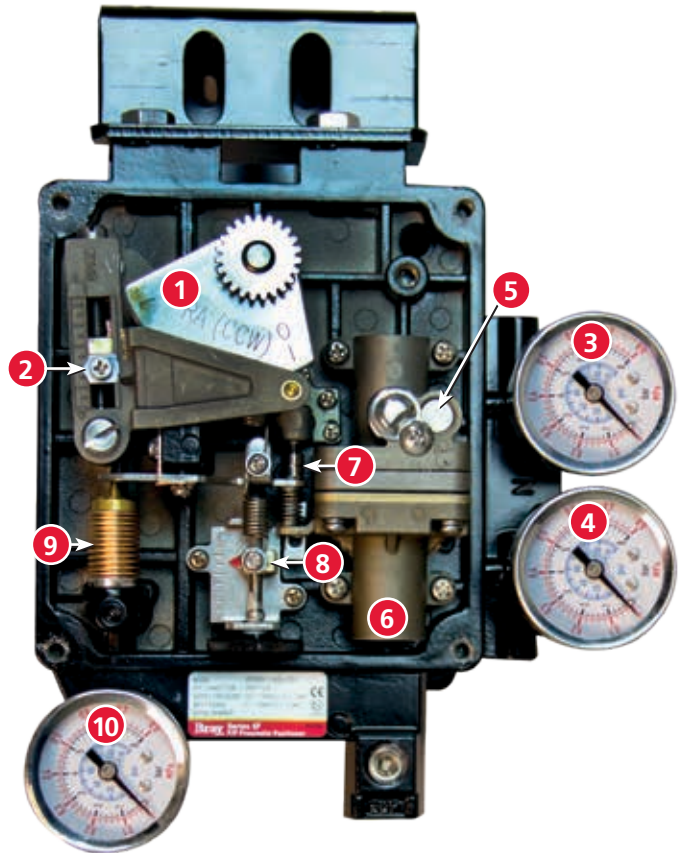
The Series 6P can be installed directly on any quarter-turn valve actuator conforming to the NAMUR standard. Contact your local Bray Distributor for information about mounting the 6P on non-NAMUR actuators.

The Series 6P housing is constructed from durable die-cast aluminum that is first anodized for internal corrosion resistance, then powder coated for external resistance to harsh environments.

OPTIONS / ACCESSORIES

Special Cams: Special cams for non-standard ranges may be modified by the factory or customer.

Air Filter: A coalescing air filter is recommended for all positioners to eliminate dust, moisture, and oil particles from contaminating the unit.



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|--------------------------|-------------------------|
| 1 Feedback Cam | 6 Two-Stage Pilot Relay |
| 2 Span Adjustment | 7 Flapper/Nozzle |
| 3 Output 1 Gauge | 8 Zero Adjustment |
| 4 Output 2 Gauge | 9 Input Signal Bellows |
| 5 Auto/Manual Adjustment | 10 Input Signal Gauge |

STANDARD FEATURES

- **Two-Stage Pilot Relay** Provides fast, sensitive response characteristics for precise control of critical control valves and dampers.
- **Corrosion Resistant Materials** All exposed parts are either stainless steel or powder coated anodized aluminum to permit use in corrosive environments.
- **High Visibility Dome Position Indicator** Provides high-contrast, full-angle viewing of valve position.
- **Vibration Resistant** High natural frequency and pneumatic dampening make the Series 6P resistant to vibration.
- **Gauge Manifold** 3 gauges are provided for Signal, OUT 1, and OUT 2 ports.
- **Double or Single Acting**
- **Adjustable NAMUR Mounting Bracket**