

AVID FIGURE 793 AVID® SMARTCAL POSITIONER

An analogue positioner offering performance and intelligent communication.



FEATURES

- Diagnostic intelligence via Hart® protocol.
- Responds to Hart® commands.
- The AutoCal feature provides for simple zero and span adjustments as well as PID and transduce calibration.
- The SmartCal intelligent positioner feeds back accurate valve position information using non-contacting means, permitting use of advanced control strategies where knowledge of valve position is used in predictive and other algorithms.
- Accurate measurement of operating parameters (stem position, input signal, air pressure).
- Real-time view of control valve status.
- Can be mounted remotely from the valve (up to 15 metres), making it suitable for high vibration, corrosive environment etc.
- High volume manifold option for larger actuators with swept volume greater than 9.8 litres.

GENERAL APPLICATION

The AVID® range of analogue and intelligent positioners offers a range of options for actuator calibration, position feedback, performance verification and control valve status intelligence.

TECHNICAL DATA

Input current:	4 to 20mA / analogue 4mA / Hart
Air pressure:	Up to 827kPa
Temperature:	Minus 40°C to 85°C





OPERATING SPECIFICATIONS

Input current	4 to 20mA (analogue) 4mA (Hart protocol)
Voltage drop	12.3 volt
Supply air pressure	275 to 827 kPa
Resolution	0.2% of span
Linearity	Linear 1% of span / rotary 0.5% of span
Hysteresis	0.2% of span
Repeatability	0.2% over 1 hour
Thermal coefficient	2% / 100°C
Output flow rates	Std manifold = 7.6 L/s @ 620 kPa High vol manifold = 19.8 L/s @ 620 kPa
Air consumption	Std manifold = 0.0037 L/s @ 620 kPa High vol manifold = 0.0056 L/s @ 620 kPa
Operating temp. range	-40 to 85°C
Gain	Electronically adjustable
Feedback	Hall effect (non contact)
Diagnostics	Local LCD display or Hart protocol
Air connection ports	Std manifold = 1/4" BSP / high vol manifold = 3/8" BSP
Calibration method	Automatic (local key pad / Hart) or manual options

MATERIALS OF CONSTRUCTION

Enclosure	Engineered resin
Manifold aluminium	Hard anodised
ModMount	Nylon
Conduit entry NPT	M20

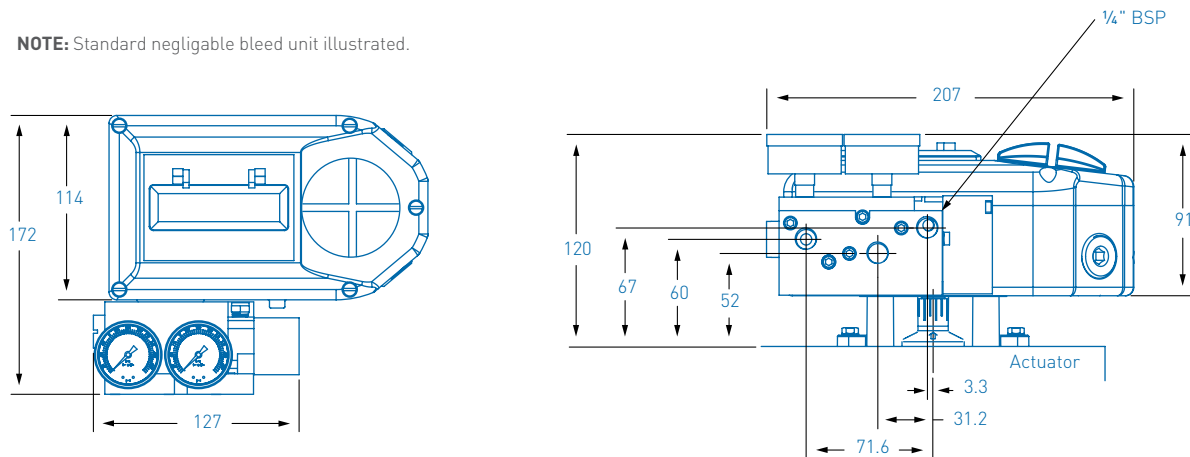
AREA CLASSIFICATIONS & APPROVALS

Weatherproof	IP66
IECEX	Exia IIC T4

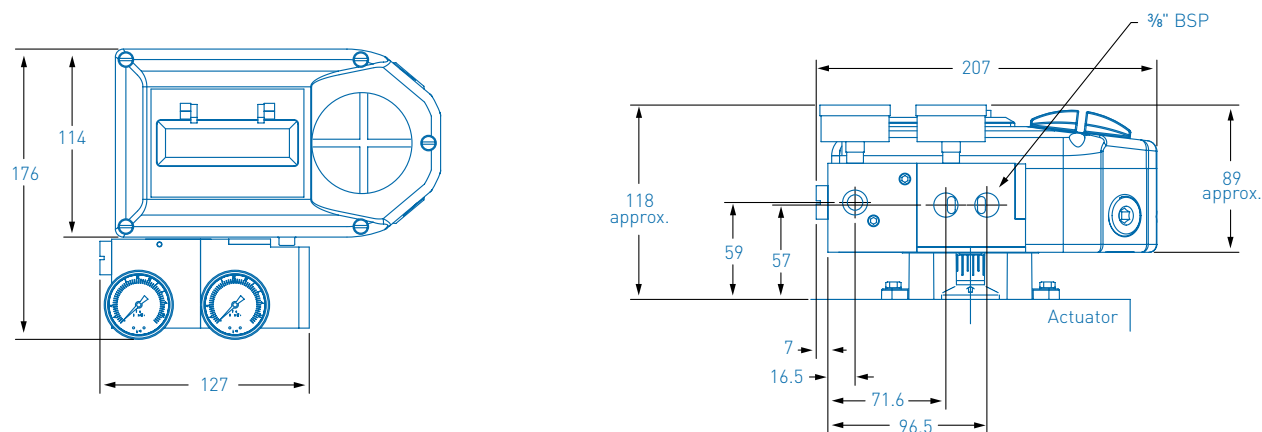
AVID FIGURE 793 AVID® SMARTCAL POSITIONER

DIMENSIONS (MM)

NOTE: Standard negligible bleed unit illustrated.



NOTE: High flow unit illustrated.



POSITION TRANSMITTER

Output	4 to 20 mA nominal, proportional to stem position
Terminal voltage req.	12 to 35 volts DC, Reverse polarity protected
Linearity (max.deviation from straight line)	±0.5%
Span adjustment	Electronic
Zero adjustment	Electronic
Resolution	Infinite
Hysteresis	Negligible
Temperature eange	-40°C to +85°C
Temperature effect	Less than .01%/°C
Humidity	10% to 90%, non-condensing

POSITION SENSORS

Position sensors are available for integrated monitoring of valve position. Proximity sensors, hermetically sealed against the intrusion of explosive gases and liquids, provide maximum resistance against moisture and corrosion. Hermetically sealed position sensors are considered 'Simple Apparatus' for intrinsically safe applications.

TYPICAL SPECIFYING SEQUENCE

Description	Part No.	Comments
Avid SCAL GP INT TRANS	2037410	SmartCal for direct mounting to valve.
Avid SCAL REMOTE TRANS	2036868	SmartCal for remote position sensing.
Avid SCAL GP HVOL INT TRANS	2039334	SmartCal for direct mounting to valve with high volume manifold.
Avid SCAL HVOL REMOTE TRANS	2044690	SmartCal for remote position sensing with high volume manifold.

SPECIAL NOTE:

SmartCal standard flow design is suitable for actuator swept volumes of a minimum 0.65 litres to a maximum of 9.80 litres for proper Auto Calibration functionality.

Optional high flow design is suitable for actuator swept volumes of a minimum 3.2 litres to a maximum of 16.30 litres for proper auto calibration functionality.

NOTE:

It should also be noted that this is to be used as a general guideline only.

The actuator/valve package dynamics would dictate the success of the auto calibration routine and could be compromised by the following; instrument air supply volume capacity, actuator sizing, tubing size and actuator/valve health.



PENTAIR VALVES & CONTROLS

www.pentair.com/valves

All Pentair trademarks and logos are owned by Pentair Inc. All other brand or product names are trademarks or registered marks of their respective owners. Because we are continuously improving our products and services, Pentair reserves the right to change product designs and specifications without notice. Pentair is an equal opportunity employer. © 2012 Pentair Inc. All rights reserved.