



Accord Controls Product Catalog



Experience In Motion



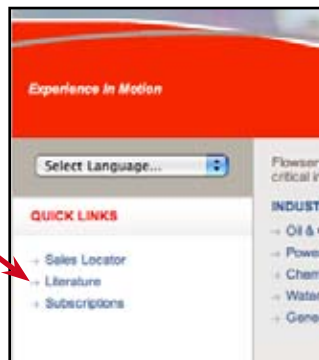
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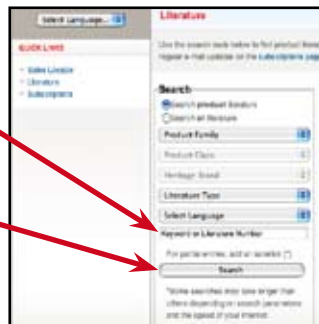
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Flowserve rotary valves offer easy maintenance and automation backed by market-friendly expertise and quality heritage brands



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SuperNova AB-Series Actuators



Features

- Twin piston rack and pinion actuator
- Corrosion and wear resistant hard anodized aluminum housing
- Nitride chemical conversion process for pinion corrosion resistance
- Field convertible double acting and spring return models
- 180 degree double acting
- Compliance to NAMUR VDI/VDE 3845 mounting specifications for controls and accessories
- Compliance to ISO 5211 mounting specifications for actuator to valve interface
- Field reversible fail action
- Precision die cast pistons have full length gear engagement, large cylinder bearings, and piston guide bands to ensure long life
- Flats on pinion drive shaft for manual overrides and accessories
- Upper and lower pinion bearings to ensure long cycle life
- Integral bi-directional travel stops
- Concentric-nested spring design ensures extended spring life
- 11 standard sizes

Torque Range

Up to 58,232 in-lbs (67,077 cm-kg)

Temperature Range

-55 Deg F to 300 Deg F
(-50 Deg C to +150 Deg C)

Maximum Pressure

150 psi (10 bar)

Applications

- HVAC, Mining, Water
- Chemical
- Petrochemical & Refining
- Process Industries

Standards

- ISO 5211
- NAMUR VDI/VDE 3845
- ATEX Directive 94/9/EC

Get more information:

Product catalog: ACENBR0004

Installation instructions: ACENIM0026

See page 2.

SuperNova Actuator NAMUR Accessories



- S25N Directional Valve
 - Mounts directly to SuperNova series actuators which eliminates the cost of tubing and fittings. The high 1.8 C_v spool valves are available for double acting and spring return actuators with NEMA 4, 7 and 9 or intrinsically-safe and low power solenoid operators.
 - For more information see bulletins (AC-97) ACENBR0004 and (AC-101) ACENIM0029*
- APS1 Air Purge Module
 - Provided with the S25N solenoid valve, the APS1 diverts instrument quality exhaust air from between the pistons into the spring chamber, preventing corrosive atmospheres from being pulled into the spring chamber.
 - For more information see bulletins (AC-97) ACENBR0004*
- APS2 Air Purge Module
 - Provided for remote/line mounted solenoid valves, the APS2 diverts instrument quality exhaust air from between the pistons into the spring chamber, preventing corrosive atmospheres from being pulled into the spring chamber.
 - For more information see bulletins (AC-97) ACENBR0004*
- LV1 Lockout & Vent Valve
 - May be used with a manual override to shut off supply air and to vent actuator. May also be used as a pneumatic lockout valve which, when properly implemented, will satisfy OSHA Standard 1910.47. May be sandwich mounted with other Accord NAMUR accessories or may be used with the NPT1 adaptor.
 - For more information see bulletins (AC-97) ACENBR0004*
- FC1, FCDA and FCSSR
 - Flow control modules provide compact and precise adjustment of SuperNova A actuator speeds. May be sandwich mounted with other Accord accessories or may be used with the NPT1 adaptor.

Get Bulletin ACENBR0004

See page 2.

SuperNova Actuator Accessories



- Lockouts
 - Permits easy mechanical lockout of automated valves. Lockouts can be field retrofitted and are designed to withstand the rated output torque of the actuator, with the intent to meet the requirements of OSHA Standard 1910.47 (The Control of Hazardous Energy, Lockout / Tagout)
- Gear Overrides
 - Declutchable gear overrides are options that allow local manual control of actuated valves and dampers. The gear overrides are sized for easy operation and can be combined with other control accessories
- “Pharos” NAMUR Indicator
 - Provides an economical solution for positive visual indication of the actuator position. The Pharos NAMUR Indicator, constructed of tough industrial engineered resin, can be used on actuators that utilize a NAMUR mounting interface.
 - For more information see bulletins ACENBR0004 and (AC-33) ACENPS0033*
- AutoBrakits
 - Heavy-duty mounting kits are designed to close tolerances to assure consistency and proper alignment, which are essential to ensure maximum actuator and valve cycle life

Get Bulletin ACENBR0004

See page 2.

ASXL Series Stainless Steel Actuators



Features

- Twin piston rack and pinion actuator
- Field convertible double acting and spring return models
- Compliance to NAMUR VDI/VDE 3845 mounting specifications for controls and accessories
- Compliance to ISO 5211 mounting specifications for actuator to valve interface
- Optional air purge modules available
- Flats on pinion drive shaft for manual overrides and accessories
- Upper and lower pinion bearings to ensure long cycle life
- Precision die cast pistons have full length gear engagement, large cylinder bearings, and piston guide bands to ensure long life
- Integral bi-directional travel stops
- Field reversible fail action
- Concentric-nested spring design ensures extended spring life
- Optional SST pistons and springs are available for optimum corrosion resistance
- Seven standard sizes
- Ideal for corrosive and sanitary environments

Torque Range

Up to 8,734 in-lbs (10,060 cm-kg)

Temperature Range

-55 Deg F to 300 Deg F
(-50 Deg C to +150 Deg C)

Maximum Pressure

120 psi (8 bar)

Applications

- HVAC, Mining, Water
- Chemical
- Petrochemical & Refining
- Process Industries

Standards

- ISO 5211
- NAMUR VDI/VDE 3845

Get more information:
Product catalog: ACENBR0004, (AC-97)

See page 2.

Heavy-Duty AR2, AR3 and AR4 Scotch Yoke Actuators



Features

- Pneumatic, gas and hydraulic models
- Double acting, spring return and “fail-safe”
- On-off, multi-position and throttling
- Overrides, special controls, line break controls
- Unique one-piece housing design ensures accurate alignment of torque shaft and piston rod promoting long cycle life
- Needle bearings and seals significantly increase torque output and cycle life while providing near frictionless rotary motion.
- Piston quad seals provide dependable, trouble-free service
- Heavy-walled, hard chrome plated cylinders are honed to a micro finish
- Spring module is an easily removable, welded cartridge

Torque Range

Up to 170,000 in-lbs (195,823 cm-kg)

Temperature Range

-55 Deg F to 300 Deg F
(-50 Deg C to +150 Deg C)

Maximum Pressure

2500 psi (172 bar)

Applications

- HVAC, Mining, Water
- Chemical
- Petrochemical & Refining
- Process Industries

Standards

Flowserve

Get more information:
Product catalog:
ACENBR0004
Installation instructions:
ACENIM0027

See page 2.

Heavy-Duty AR5 Scotch Yoke Actuators



Features

- Pneumatic, gas and hydraulic models
- Double acting, spring return and “fail-safe”
- On-off, multi-position and throttling
- Identical mounting pads provide easy change of fail direction
- Indicator/Output shaft has NAMUR slot and optional position indicator
- Spring module is an easily removable, welded cartridge
- Heavy-walled, hard chrome plated cylinders are honed to a micro finish

Torque Range

Up to 500,000 in-lbs (575,950 cm-kg)

Temperature Range

-55 Deg F to 300 Deg F
(-50 Deg C to +150 Deg C)

Maximum Pressure

2500 psi (172 bar)

Applications

- HVAC, Mining, Water
- Chemical
- Petrochemical & Refining
- Process Industries

Standards

Flowserve

Get more information:
Product catalog:
ACENBR0004
Installation instructions:
ACENIM0028

See page 2.

Centura Series Electric Actuators



Features

- ACE Series
 - Electrical cut-off switch; captive cover bolts; Quick-Set cams; simple mounting arrangements; heavy-duty brake option; 3/4 NPT conduits standard; massive gear train; rugged single phase permanent split capacitor gearmotor, NEMA 4, 4x, 7, 9
- ACPL Series
 - Captive cover bolts; Quick-Set cams; simple mounting arrangements; 3/4 NPT conduits standard; enclosed, permanently lubricated gear train; rugged single phase permanent split capacitor gearmotor; corrosion resistant engineered resin housing, NEMA 4, 4x
- AE Series
 - Captive cover bolts; Quick-Set cams; 1/2-inch NPT conduits standard; permanently lubricated, precision cut, heat treated alloy steel gear train; rugged single phase permanent split capacitor gearmotor; corrosion resistant housing; manual override standard, NEMA 4
- Control Boxes
 - Available for a variety of local and remote control options, Control Boxes are available in engineered resin, carbon steel, and stainless steel enclosures with weatherproof and explosion-proof approvals

Models Available

- ACE Series
 - the workhorse of the Centura series
- ACPL Series
 - ideal for harsh, corrosive environments
- AE Series
 - combines maximum performance and corrosion in one package

Torque Range

Up to 3500 in-lbs (4031 cm-kg) depending upon the model

Temperature Range

-40 Deg F (with heater) to 158 Deg F (-40 Deg C to +70 Deg C) depending upon the model

Supply Voltage

- 115 VAC 50/60, 12 VDC, 24 VDC, 230 VAC 50/60, 24 VAC
- On-Off, 3-position control, and modulating options are available
- Fieldbus digital communications available in AS-i, FOUNDATION Fieldbus, and PROFIBUS DP protocols

Applications

- HVAC, Mining, Water
- Power Generation, Nuclear Service
- Oil & Gas

Standards

- NEMA 4, 4x, 7 and 9

Get more information:

Product catalog:
AC-2

Installation instructions:

CE Series ACEIM0075 (AC-75); ACEIM0075 (AC-75)

See page 2.

UltraSwitch AGL Series



Features

- Pharos visual position indicators for high contrast, wide angle viewing
- Compliance to NAMUR VDI/VDE 3845 mounting specifications eliminates coupler and maximizes interchangeability
- Captive stainless steel cover screws
- Prewired multipoint terminal strip
- Quick-Set spring loaded cams are extra wide and splined to permit tool-free limit switch calibration
- Extensive switch offering for a wide range of applications including mechanical, proximity, solid state sensor options

Description

Provides a compact and economical package for NEMA 4 visual and remote electrical indication of valve position

Housing Material

Die cast aluminum; electrostatic powder coated

Standards

NEMA 4, 4x

Hazardous Area Classifications

- Class I, Division 2, Groups A, B, C, D approvals when supplied with hermetically sealed magnetic proximity switches.
- ATEX II 2G EEx me II T4-T6 with Phazer II and BRS switches.
- Class II Division 2 Groups F&G

Get more information:

Product catalog:

ACENBR0006, ACENPS0029

Installation instructions:

ACENIM0058

See page 2.

UltraSwitch AXCL Series



Features

- UltraDome visual position indicators for high contrast, wide angle viewing
- Compliance to NAMUR VDI/VDE 3845 mounting specifications eliminates coupler and maximizes interchangeability
- Captive stainless steel cover screws
- Prewired multipoint terminal strip
- Quick-Set spring loaded cams are extra wide and splined to permit tool-free limit switch calibration
- Extensive switch offering for a wide range of applications including mechanical, proximity, solid state, and analog feedback options

Description

Provides a heavy-duty and rugged globally-certified explosion-proof package for visual and remote electrical indication of valve position

Housing Material

Die cast aluminum; dichromate conversion undercoat; electrostatic powder top coat

Standards

NEMA 4, 4x, 7 and 9, IP65, IP67

Hazardous Area Classifications

- Explosion-Proof (UL/CSA/ATEX) mechanical switch options
- Class I, Divisions 1, Groups C and D
- Class II, Divisions 1, Groups E, F and G
- ATEX II 2 G EEx d IIB T5
- Explosion-Proof (UL/CSA/ATEX) proximity/solid state switch options (except NJ)
- Class I, Division 1, Groups C and D
- Class I, Division 2, Groups A, B, C and D with select hermetically sealed proximity switches
- Class II, Divisions 1 and 2, Groups E, F and G
- ATEX II 2 G EEx d IIB T5

Get more information:

Product catalog: ACENBR0006

Installation instructions: ACENIM0058

Product specification: ACAPS0120

See page 2.

UltraSwitch APL Series



Features

- UltraDome visual position indicators for high contrast, wide angle viewing
- Compliance to NAMUR VDI/VDE 3845 mounting specifications eliminates coupler and maximizes interchangeability
- Captive stainless steel cover screws
- Prewired multipoint terminal strip
- Quick-Set spring loaded cams are extra wide and splined to permit tool-free limit switch calibration
- Extensive switch offering for a wide range of applications including mechanical, proximity, solid state, and analog feedback options

Description

Engineered resin enclosure provides excellent protection for harsh corrosive environments

Housing Material

Non-metallic engineered resin

Standards

NEMA 4, 4x

Hazardous Area Classifications

- Class I, Division 2, Groups A, B, C, D approvals when supplied with hermetically sealed magnetic proximity switches Atex II 2 G EEx me II T4-T6 with Phazer II and BRS switches.
- Class II Division 2 Groups F&G

Get more information:

Product catalog:

ACENBR0006

Installation instructions:

ACENIM0058

See page 2.

Aviator Integrated Valve Controller



Description

Designed for use with pneumatic rotary industrial valve actuators in hazardous locations. With the same features as the UltraSwitch, the Aviator provides actuator/valve control by receiving a direct solenoid voltage signal. Also provides remote indication of open and closed valve positions by completing separate electrical circuits.

Housing Material

- Aluminum (AXV and ACV models)
- Engineered Resin (AWR model)

Standards

- NEMA 4, 4x, 7, 9 IP66/IP67 (AXV model)
- ATEX EEx d IIB (ACV model)
- NEMA 4, 4x (AWR model)

Hazardous Area Classifications

- Class I, Division 1, Groups C, D
- Class II, Division 1, Groups E, F, G
- Class II, Division 2 Groups F&G
- Class I, Division 2, Groups A, B, C and D
- ATEX II 2 G EEx d IIB T4-T6
- ATEX II 3 G EEx nC II T4-T6 with R4 P1, PP and B4 switch options.

Get more information:

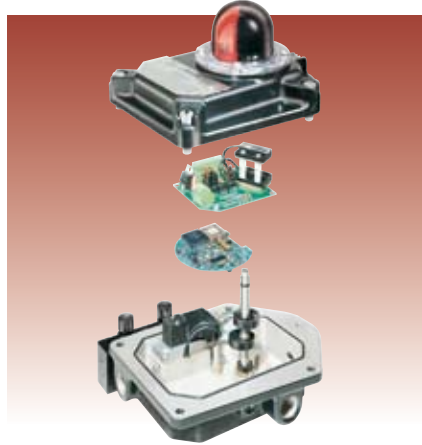
Product catalog:
ACENBR0006

Installation instructions:
ACENIM0100 or for
non-metallic ACENIM0032

Product specification:
ACENPS0014 or for
non-metallic ACENPS0012

See page 2.

BUSwitch Integrated Valve Controller



Description

Designed for use with pneumatic rotary industrial valve actuators in hazardous locations with digital fieldbus communications. With the same features as the Aviator, the BUSwitch provides actuator/valve control by receiving a direct solenoid voltage signal. Also provides remote indication of open and closed valve positions by completing separate electrical circuits. Available in the following fieldbus protocols: AS-i, DeviceNet, FOUNDATION Fieldbus and PROFIBUS DP.

Housing Material

- Aluminum (AXV and ACV models)
- Engineered Resin (AWR model)

Standards

- NEMA 4, 4x, 7, 9 IP66/IP67 (AXV model)
- ATEX EEx d IIB (ACV model)
- NEMA 4, 4x (AWR model)

Hazardous Area Classifications

- Class I, Division 1, Groups C, D
- Class II, Division 1, Groups E, F, G
- Class II, Division 2, F&G
- Class I, Division 2, Groups A, B, C and D
- Class I, Divisions 1 and 2, Groups A, B, C and D Intrinsically safe for FOUNDATION Fieldbus protocol only
- ATEX II 2 G EEx d IIB T4-T6
- ATEX II 3 G EEx nC II T4-T6 with Foundation Fieldbus only

Get more information:

Product catalog: ACENBR0006

Installation instructions:
ACENIM0020

Installation instructions:
ACENIM0025 for AS-i protocol

Installation instructions:
ACENIM0020 for FOUNDATION Fieldbus
protocol

Installation instructions:
LML0012 for PROFIBUS DP protocol

See page 2.

APEX A4000 Positioner



Description

Compact, rugged design provides accurate valve positioning at a competitive price. Available with pneumatic and electro-pneumatic input options that can be field retrofitted.

Housing Material

Die cast aluminum; electrostatic powder coated

Features

- Low-profile visual indicator provides viewing of valve position
- Compliance to NAMUR VDI/VDE 3845 mounting specifications eliminates coupler and maximizes interchangeability
- Captive stainless steel cover screws
- Compact, rugged design has few moving parts adding to its reliability and performance
- Interchangeable I/P Modules allow positioner to be field converted for 3-15 psi or 4-20 mA input signals
- Multiple cam options allow configuration of positioner characteristics to match valve requirements
- Externally adjustable zero setting
- Gold-plated spool valves available in low or high flow versions to match actuator/valve load requirements

Standards

NEMA 4, 4x, 7 and 9

Hazardous Area Classifications

- Class I, Divisions 1 and 2, Groups C and D
- Class II, Groups E, F and G
- ATEX II 2 G EEx d IIC
- Intrinsically Safe ATEX II 2 G EEx ia IIC

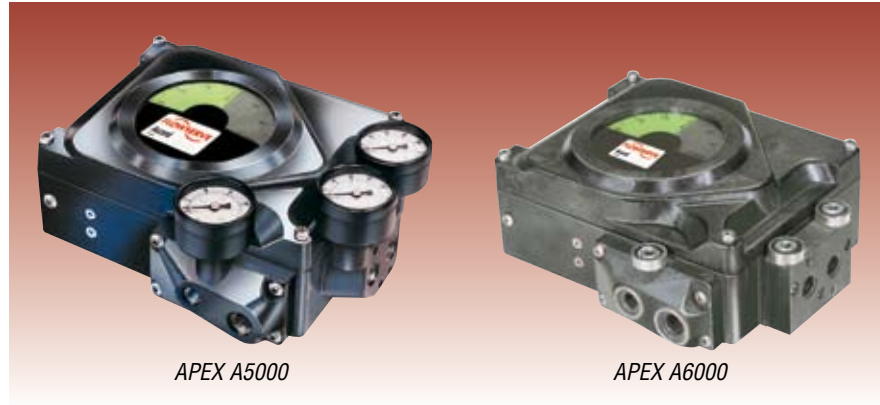
Get more information:

Product catalog:
ACENBR0006

Product specification:
ACENPS0014, ACENPS0015, ACENBR0016

See page 2.

APEX A5000/A6000 Positioner



APEX A5000

APEX A6000

Description

The aluminum APEX A5000 and engineered resin APEX A6000 positioners provide accurate valve positioning with many advanced features. Pneumatic and electro-pneumatic input options available that can be field retrofitted. Also available with many advanced features such as limit switch feedback, analog feedback, NAMUR accessories, and Pharos visual position indicators.

Housing Material

APEX A5000 Die cast aluminum; electrostatic powder coated, APEX A6000 engineered resin

Features

- Optional Pharos visual position indicator for high contrast, wide-angle viewing of valve position
- Compliance to NAMUR VDI/VDE 3845 mounting specifications eliminates coupler and maximizes interchangeability
- Captive stainless steel cover screws
- Die cast aluminum enclosure (APEX A5000) with dichromate conversion undercoating and electrostatic powder topcoat. The APEX A6000 housing is a non-metallic engineered resin for maximum corrosion protection.
- Interchangeable I/P Modules allow positioner to be field converted for 3-15 psi or 4-20 mA input signals
- Multiple cam options allow configuration of positioner characteristics to match valve requirements
- Non-interactive zero and span adjustments with lockable rack and pinion reduces calibration time
- Adjustable gain permits positioner sensitivity adjustment without removing or replacing components
- Low flow, high flow and max flow spool valves available to match actuator/valve load requirements
- Vibration resistant low spool mass, outboard spool bearings and locking calibration adjustments provide reliable operation in high vibration applications
- Optional limit switch and analog feedback options available
- Optional NAMUR accessories available for speed control and block/bleed functions

Standards

NEMA 4, 4x

Hazardous Area Classifications

Applies only when using the KM52 and KM62 I/P transducer.

- FM Explosion-proof Class I, Division 1, Groups B,C and D
- FM Intrinsically Safe Class I, Division 1, Groups A,B,C and D Class I Zone 0 AEx ia IIC T4
- FM Dust Ignition Proof Class II and III Division 1 Groups E,F and G, T4
- FM Nonincendive Class I Division 2 Groups A,B,C and D T4
- CSA Explosion-Proof Class I Division 1, Groups B,C and D Class II Groups E,F and G Class III Exd IIB+H2 T4
- CSA Intrinsically Safe Class I Division 1 Groups A,B,C and D Class II Division 1 Groups E,F and G Class III Ex ia IIC T4
- ATEX Flameproof II 2 GD EEx d IIB T4,T5 and T6
- ATEX Intrinsically Safe II 1 G II 1D EEx ia IIC T4
- Australia Flameproof ANZEx Exd IIB+H2 T6 IP65
- Australia Intrinsically Safe ANZEx Ex ia IIC T4 and T5
- Australia Nonincendive ANZEx Ex n IIC T6

Get more information:

Product catalog:
ACENBR0006

Installation instructions:
ACENIM0053 and ACENIM0057
Product specification:
ACENPS0015 and ACENPS0016

See page 2.

AXL90 High Performance Positioner



Description

The AXL90 positioner provides extremely precise control for a wide range of valve and damper applications. The two-stage pneumatic relay provides faster, more sensitive response characteristics to meet the most demanding control objectives. Pneumatic and electro-pneumatic input options available that can be field retrofitted. Also available with many advanced features such as limit switch feedback, analog feedback and UltraDome visual position indicators.

Housing Material

Die cast aluminum with electrostatic epoxy powder coat

Features

- Optional UltraDome visual position indicator for high contrast, wide-angle viewing of valve position
- Compliance to NAMUR VDI/VDE 3845 mounting specifications eliminates coupler and maximizes interchangeability
- Captive stainless steel cover screws
- Interchangeable I/P Modules allow positioner to be field converted for 3-15 psi or 4-20 mA input signals
- Multiple cam options allow configuration of positioner characteristics to match valve requirements
- Non-interactive zero and span adjustments with lockable rack and pinion reduces calibration time
- Adjustable gain permits positioner sensitivity adjustment without removing or replacing components
- Two-stage pneumatic relay permits fast and extremely precise response to input signals for optimum control
- Vibration resistance through high natural frequency and pneumatic dampening make the AXL90 unaffected by vibrations with accelerations up to 2 G's and frequencies to 500 Hz
- Optional limit switch and analog feedback options available

Standards

NEMA 4, 4x

Hazardous Area Classifications

Applies only when using the NT3000 I/P Transducer.

- FM Explosion-proof
Class I, Division 1, Groups B,C and D
- FM Intrinsically Safe
Class I, Division 1, Groups A,B,C and D
Class I Zone 0 AEx ia IIC T4
- FM Dust Ignition Proof
Class II and III Division 1 Groups E,F and G, T4
- FM Nonincendive
Class I Division 2 Groups A,B,C and D T4
- CSA Explosion-Proof
Class I Division 1, Groups B,C and D
Class II Groups E,F and G
Class III
Exd IIB+H2 T4
- CSA Intrinsically Safe
Class I Division 1 Groups A,B,C and D
Class II Division 1 Groups E,F and G
Class III
Ex ia IIC T4
- ATEX Flameproof
II 2 GD EEx d IIB T4,T5 and T6
- ATEX Intrinsically Safe
II 1 G
II 1D
EEx ia IIC T4
- Australia Flameproof
ANZEx Exd IIB+H2 T6 IP65
- Australia Intrinsically Safe
ANZEx Ex ia IIC T4 and T5
- Australia Nonincendive
ANZEx Ex n IIC T6

Get more information:

Product catalog:

ACENBR0006

Installation instructions:

ACENIM0009

See page 2.



Description

The Logix 500si digital positioner combines state-of-the-art piezo valve technology with inner-loop feedback for extremely precise control for a wide range of valve and damper applications. The cost competitive package is ideal for weatherproof, intrinsically safe and nonincendive digital positioner applications. The Logix 510si is available as an economical 4-20 mA digital positioner. The Logix 520si is available with the industry standard HART protocol with advanced features such as dual gain tuning, 21-point custom characterization, and signatures for advanced predictive/preventive maintenance diagnostics. Also available with many advanced features such as limit switch feedback, analog feedback and UltraDome visual position indicators.

Housing Material

Die cast aluminum with electrostatic epoxy powder coat

Features

- Optional UltraDome visual position indicator for high contrast, wide-angle viewing of valve position
- Compliance to NAMUR VDI/VDE 3845 mounting specifications eliminates coupler and maximizes interchangeability
- Captive stainless steel cover screws
- Quick-Cal function provides fast, push-button automatic calibration of positioner
- Direct User Interface permits local access to positioner control and quick commissioning independent of a handheld configurator or laptop/PC
- Two-Stage control utilizes piezo technology combined with inner-loop feedback for precise control
- Local Status LED's provide instant information relating to internal diagnostic codes, indicating 36 different conditions
- 21-Point Custom Characterization permits the user to control the valve in virtually any position desired for a given input signal

- Jog Calibrate function allows users to easily calibrate the positioner on actuators without physical stroke stops
- AutoTune function and Gain Selector Switch ensures consistency and optimum performance for control applications
- Optional limit switch and analog feedback options available

Standards

NEMA 4, 4x

Hazardous Area Classifications

- FM Intrinsically Safe Class I, Division 1, Groups A, B, C and D T4-T5
- Class I Zone 0 AEx ia IIC T4-T5
- Nonincendive Class I, Division 2, Groups A, B, C and D T4-T5
- ATEX Intrinsically Safe II 1 G EEx ia IIC T4,T5 & T6
- CSA Class I Groups A,B,C & D
- Gost R
- Gost K (exemption)

Get more information:

Product catalog:
ACENBR0006

Product specification:
ACENPS0013

See page 2.

The following information is accessible from the Logix Digital Valve Controller:

Identification

- Spool identification
- Air action
- Tag number
- Spring type
- Valve style
- Valve material
- Valve body size
- Valve serial number
- Valve manufacturer
- Valve pressure class

- Valve end connections
- Fail position
- Stroke length
- Flow direction
- Trim number/size
- Trim characteristic
- Stem/shaft diameter
- Trim type and material
- Leakage class
- Inlet/outlet pressure
- Actuator size and type
- Device name/description
- Embedded software version
- Electronic serial number
- Engineering units
- Message - up to 32 characters

Calibration

- Stroke
- 4-20 mA signal
- Pressure sensor
- Calibration date
- Calibrated by initials

Data Acquisition

- Valve position
- 4-20 mA signal
- Command signal
- Clockwise actuator pressure
- Counter clockwise actuator pressure

Diagnostics and Signatures

- Step test
- Ramp test
- Internal power test

Preventive Maintenance

- Actual travel
- Rated travel
- Travel alert
- Packing style
- Cycle counter
- Cycle alert

Logix 3200IQ / 3400IQ Digital Positioner



Description

The Logix 3200IQ / 3400IQ digital positioner combines state-of-the-art piezo valve technology with inner-loop feedback for extremely precise control for a wide range of valve and damper applications. The Logix 3200IQ / 3400IQ is available in an explosion-proof and intrinsically safe enclosure for North American and European hazardous locations. With identical calibration features of the Logix 500si, the Logix 3200IQ utilizes a powerful 16-bit microprocessor and state-of-the-art piezo technology to deliver unparalleled performance. The Logix 3200IQ utilizes the industry standard HART protocol, the Logix 3400IQ is available with the FOUNDATION Fieldbus protocol. Both the Logix 3200IQ and the Logix 3400IQ provide the customer with advanced features such as dual gain tuning, 21-point custom characterization and signatures for advanced predictive/preventive maintenance diagnostics. Also available with many advanced features such as limit switch feedback, analog feedback and stainless steel enclosures.

Housing Material

Die cast aluminum with electrostatic epoxy powder coat. Optional 316 stainless steel enclosure

Features

- Compliance to NAMUR VDI/VDE 3845 mounting specifications eliminates coupler and maximizes interchangeability
- 16-Bit Microprocessor provides substantial increase in CPU speed, allowing greater onboard diagnostics and control capabilities
- Quick-Cal function provides fast, push-button automatic calibration of positioner
- Direct User Interface permits local access to positioner control and quick commissioning independent of a handheld configurator or laptop/PC
- Two-Stage control utilizes piezo technology combined with inner-loop feedback for precise control

- Local Status LED's provide instant information relating to internal diagnostic codes, indicating 36 different conditions
- 21-Point Custom Characterization permits the user to control the valve in virtually any position desired for a given input signal
- Jog Calibrate function allows users to easily calibrate the positioner on actuators without physical stroke stops
- AutoTune function and Gain Selector Switch ensures consistency and optimum performance for control applications
- Optional limit switch and analog feedback options available

Standards

NEMA 4, 4x

Hazardous Area Classifications

- CSA Explosion-proof Class I, Division 1, Groups B, C and D
Class II Division 1&2 Groups E,F&G Ex d IIB+H2 T5
- CSA Intrinsically Safe Class 1, Division 1, Groups A, B, C and D
Class II Division 1&2 Groups E,F &G Class III
- FM Explosion-proof Class I Division 1 Groups B,C & D
- Class II Division 1 Groups E,F & G Class III
- FM Intrinsically Safe Class I Division 1 Groups A,B,C & D T4
- Non-incendive Class I Division 2
- ATEX Flameproof II 2 G EEx d II B+H2 T5 (KOSHA approved)
- Intrinsically Safe ATEX II 1 G EEx ia IIC T4-T5
- Inmetro Flameproof BR-Ex d IIB+H2 T5
- Inmetro Intrinsically Safe BR-Ex ia IIC T4-T5
- Gost R
- Gost K

Get more information:

Product catalog:

ACENBR0006

Installation instructions:

ACAIM3200

Product specification:

ACENPS3200

See page 2.

SoftTools Software Suite



Description

The SoftTools software package provides all of the tools necessary to establish communications with a Logix 520si or 3200IQ digital positioner using a personal computer via HART protocol. SoftTools introduces the most advanced and comprehensive set of valve and positioner diagnostics available today including:

- Valve/Package identification including tag number, valve specifications and actuator configuration
- 21-Point Custom Characterization allows the user to adjust a 21-point characterization curve to change the response of the positioner to meet process requirements
- Positioner performance tests measure hysteresis, deadband, linearity and repeatability
- Signature comparisons can be performed by evaluating a stored "installed" signature curve to current performance
- Dual gain tuning permits the user to make large step changes with minimum overshoot while achieving the resolution to respond to very small step changes

Get more information:

Product catalog:

AXENBR0006

Product specification:

AXENPS0028

See page 2.

Performance! Control Valve Sizing/Selection Software

The Performance! Sizing Program helps you identify the control valve package best suited to each set of service conditions. It provides a fast, user friendly and flexible means for:

- Sizing, selecting and generating valve and actuator specifications
- Data entry and verification
- Importing and exporting all spec sheet fields

To learn more, go to www.flowserve.com and in the search box in the upper right corner, type performance! - with explanation mark at the end.

AutoSize Sizing and Selection Software Package



The AutoSize actuator sizing program offers a user friendly windows interface and features intelligent product selection screens suitable for global applications. Engineering calculations include:

- Actuator torque sizing
- Actuator torque curves
- Speed of operation (C_v , SCFM)
- Hot line distances
- Fail safe accumulator tank sizing

AutoSize is available from your local sales representative.

Flowserve Instrument Engineer's Handbook

Flowserve Instrument Engineer's Handbook for Durco Quarter-turn Control Valves is a publication devoted to the proper selection of Durco Valves for control valve applications. The formulae presented for liquids, gases, and steam are based on the ISA standard S75.01 and are divided into sections to simplify manual calculation for common sizing problems.

To obtain a copy of the Flowserve Instrument Engineer's Handbook Keyword: AC-62

see page 2



Accord Automated Drawing System (ADS)

The Accord Automated Drawing System will allow you to electronically submit assembly drawing requests to our server. Your submittal will create a customized drawing and return it to you via e-mail in a matter of minutes. There is no charge for the software, service, or completed drawings and the system is available 24 hours a day, 365 days a year.

The ADS web application allows drawings to be submitted directly through the Internet, does not require downloading of files and allows for simultaneous upgrades without affecting current users. To operate the system and submit drawing requests, simply access the website below and select the items that you require in the finished drawing. After the items are chosen, select the "Submit" button and the request is submitted to the ADS server. It takes the Automated Drawing System approximately three minutes per drawing request to process the request, create the finished drawing, and e-mail the drawing back to you. The finished drawing is returned as a .PDF Adobe Acrobat file. A .DXF file is also an option for CAD users. ADS website: <http://ads.flowserve.com>

System Requirements:

- 386 or higher PC
- 4MB of RAM (8 recommended)
- Microsoft Windows 95, 98, NT or XP
- An Internet e-mail account

For technical assistance, please contact Mike Rusche (mrusche@flowserve.com).

Chemical Compatibility Guide

Automax limit switch and positioner products were designed with harsh chemical environments in mind. Users do not normally expose valve automation accessories directly to concentrated chemicals continually, however, mild concentrations do exist in plant atmospheres. This guide provides chemical compatibility for materials used in exposed parts, i.e., housings, covers and visual indicators.

Apex™ A6000 Positioner & AWR-Series Aviator™/ BUSwitch™ – General Electric Noryl®

Noryl, a modified PPO resin, features high hydrolytic stability, meaning that it does not absorb moisture readily, making it well suited for high humidity and steam environments. Noryl offers good resistance to most acids, bases, detergents and aqueous solutions. Halogenated and aromatic solvents may soften or dissolve this material.

APL-Series UltraSwitch™ – DuPont Zytel®

Zytel®, a polyamide resin, features resistance to low concentrations of bases, solvents and salts. This high-strength engineered resin provides an excellent enclosure for harsh corrosive environments.

UltraDome™ & Pharos™ Visual Indicators – General Electric Lexan®

Lexan, a polycarbonate resin, is extremely tough and generally is not affected by low concentrations of acids, alcohols and alkalis. High concentrations should be avoided. Mild detergents, pure petroleum greases and pure silicone greases are generally compatible. Avoid solvents.

AGL & AXCL-Series UltraSwitch™, Apex™ A4000/ A5000 & Logix™ Positioners, AXV-Series Aviator™/ BUSwitch™ - Dichromate Conversion Undercoat with Polyester Powder Top Coat

The dichromate conversion coating provides improved adhesion of the top-coat, retards mildew formation, and provides extra protection against oxidation, particularly on unpainted surfaces such as the interior. Polyester provides general protection against low concentrations of some acids and alkalis. Avoid bases. Optional epoxy coating provides better chemical resistance, but has a tendency to chalk under direct exposure to ultraviolet light.



Chemical	Concentration	Noryl®	Zytel®	Lexan®	Polyester	Epoxy
Acids						
Acetic	5%	E	C	C	U	U
Acetic	90%	E	U	—	U	U
Citric	5%	—	C	C	E	E
Formic	90%	—	U	U	U	E
Hydrochloric	10%	E	U	E	C	E
Nitric	10%	E	U	C (D)	U	E
Nitric	75%	C	U	C (D)	U	C
Phosphoric	5%	E	U	E	C	C
Sulfuric	5%	E	U	C	C	C
Sulfuric	30%	E	U	C	C	C
Bases						
Ammonium Hydroxide	10%	—	C (L)	U	U	E
Potassium Hydroxide	10%	E	C	U	U	E
Sodium Hydroxide	10%	E	C (L)	U	U	E
Solvents						
Acetone		—	C	U	U	U
Ethyl Acetate (Ester)		C	E	U	C	C
Methanol		E	E	U	E	E
Methylene Chloride		—	C	U	U	U
Toluene		—	E	U	C	E
Salts						
Sodium Bicarbonate		E	E	—	E	E
Sodium Chloride	10%	E	C (L)	E	E	E
Miscellaneous						
Ammonia		E	C	—	—	—
Chlorox		E	C	—	—	—
Mineral Oil		E	—	—	E	E

E = Excellent (chemical has no effect)

C = Compatible, but material slightly affected by chemical:

L = greater than 1% dimensional change

D = discoloration

U = Unsatisfactory (chemical attacked material)

— = No test data or experience available

Providing Complete Fluid Motion Control Equipment and Services

Flowserve Seals

Flowserve manufactures and markets highly engineered mechanical shaft seals for containing corrosive, volatile, abrasive, split and zero emission gas barrier seals. They are used on pumps and other rotating equipment.

The complete seal line includes cartridge, dry-running, metal or elastomer bellows, split and zero emission gas barrier seals. Offering innovative seal design and service on demand, Flowserve is committed to the development of new technologies to further reduce maintenance and operating costs for its customers.



Flowserve Pumps

Flowserve is the driving force in the global industrial pump marketplace. No other pump company in the world has the depth or breadth of expertise in successful application of pre-engineered, engineered and special purpose pumps and systems.

Flowserve pump product lines are extensive with more than 100 distinct models and thousands of optional configurations. These are largely complementary pump types built to global standards and customer specifications.

To learn more about Flowserve Pumps and Seals, visit www.flowserve.com.





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