



FLOWSERVETM

Valtek
Logix Series 1000
Digital Positioner

Valtek Logix Series 1000 Digital Positioner

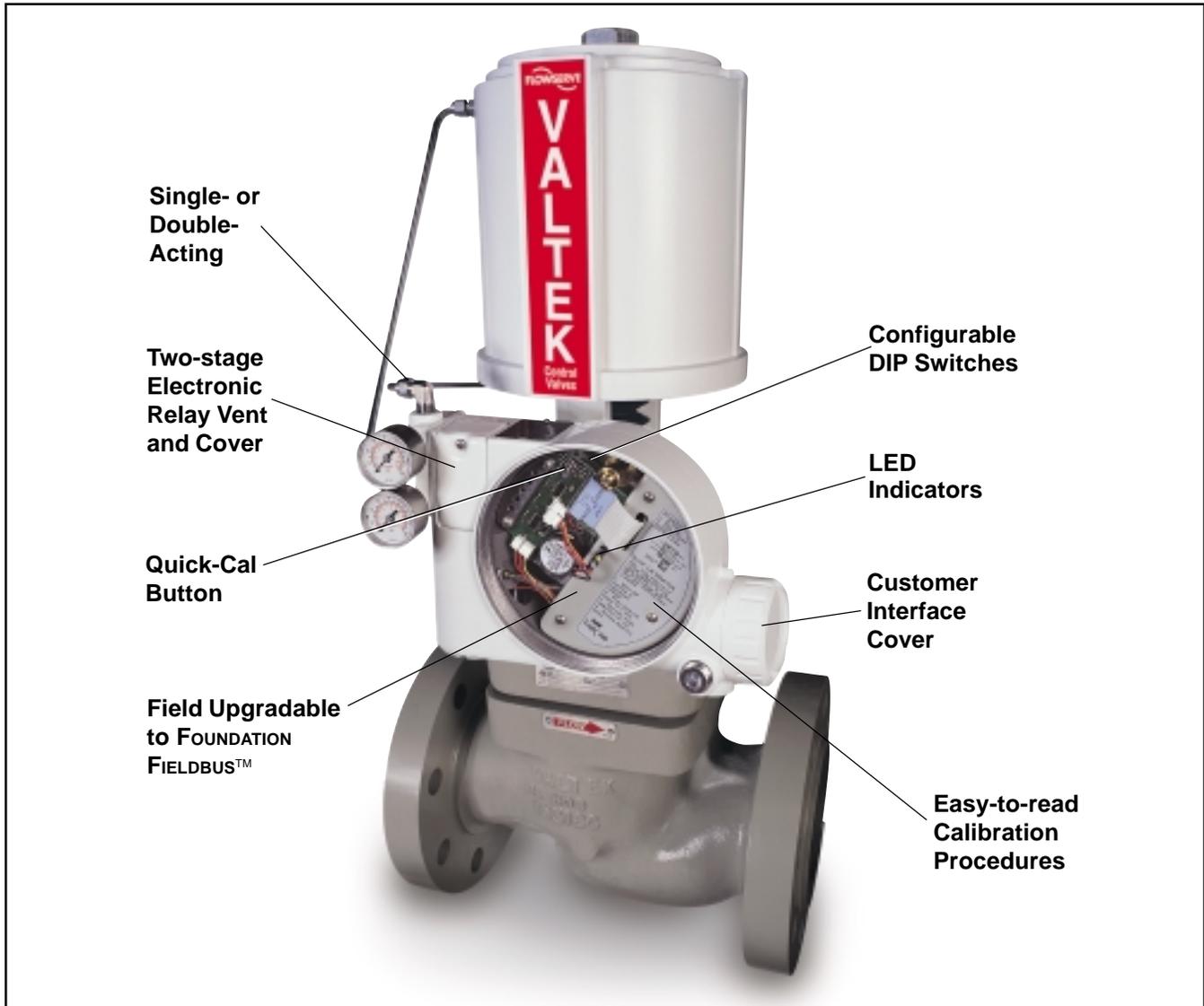


Figure 1: Logix Series 1000 Digital Positioner

Introduction

The Valtek® Logix™ Series 1000 digital positioner combines the latest technology and Valtek's extensive experience in 'smart' product development into a digital positioner which is unparalleled in its performance. This is accomplished through the use of a powerful 16-bit microprocessor and proprietary two-stage electronic relay (patent pending). An on-board Quick-Cal™ button allows the user to complete setup and calibration in less than 30 seconds without the use of hand-held devices or additional software. Local status LEDs provide an insight into valve status at a glance.

Data transfer with the ValTalk™ software is substantially faster than other current HART®-compatible systems, resulting in a dramatic speed increase in configuration and diagnostic signature acquisition. In addition to high performance, these positioners offer in-process diagnostics to the valve as well as the actuation system. Logix Series 1000 positioners are designed to provide users with significant improvements in today's plant operations while offering simple and economical migration to Fieldbus™ standards.

Valtek Logix Series 1000

Benefits and Advantages

Enhanced Performance

'Quick-Cal' Function	A Quick-Cal function provides the fastest, most convenient, self-calibration available.
Two-stage Electronic Relay	The fundamental positioning control is based on a two-stage electronic relay (patent pending), which facilitates quick, accurate response to both large and small changes in the position command.
Enhanced Data-packing Technique	Using an enhanced data-packing technique and ValTalk software, data transfer with the Logix Series 1000 positioner can be accomplished up to seven times faster than current HART-compatible systems, resulting in a dramatic speed increase in configuration and diagnostic signature acquisition.
Sixteen-bit Processor	The Logix Series 1000 digital positioner utilizes a 16-bit microprocessor which provides a substantial increase in CPU speed, allowing greater on-board diagnostics capability and 21-point custom characterization.
Low Operating Current	Many digital positioners cease operating if current drops below 4 mA. Although communications require about 3.5 mA the Logix positioner continues to operate even when current drops as low as 2.8 mA.
HART Handheld Support	The Logix 12XX is supported by the HART Model 275 handheld communicator.
ValTalk Software	The ValTalk Windows-based software allows the operator to run diagnostics and signatures, calibrate, display parameters, log data, set alarms, and perform many other functions in a familiar Windows environment with on-line help files.
Twenty-one point Custom Characterization	Twenty-one individual points can be programmed so the valve can be in virtually any position the operator desires for a given signal.
Configuration Filing Capability	Through ValTalk software a configuration can be saved to disk, allowing values to be restored to that valve or downloaded to another valve.

Maintenance

Local Status LEDs	Local status LEDs provide operators with a 'window into the system,' alerting personnel to potential problems. This results in improved plant safety and less down time. The green LED indicates that the positioner and all alerts are normal. Yellow indicates a user limit or alert has been reached. Red indicates that a positioner failure has occurred.
--------------------------	--

Increased Safety

Hazardous Area Certification	The Logix Series 1000 digital positioner carries both explosion-proof and intrinsically safe approvals which is indicated by the fifth and sixth digits of the model number (see <i>Model Number Breakdown</i> on page 7).
Alarms	The Logix Series 1000 positioner includes calibration, pressure sensor and user programmable alarms that inform personnel of potential problems so preventive measures can be taken, ensuring the safety of plant personnel.

Valtek Logix Series 1000

Information Accessible from the Logix Series 1000 Digital Positioner

Calibration

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

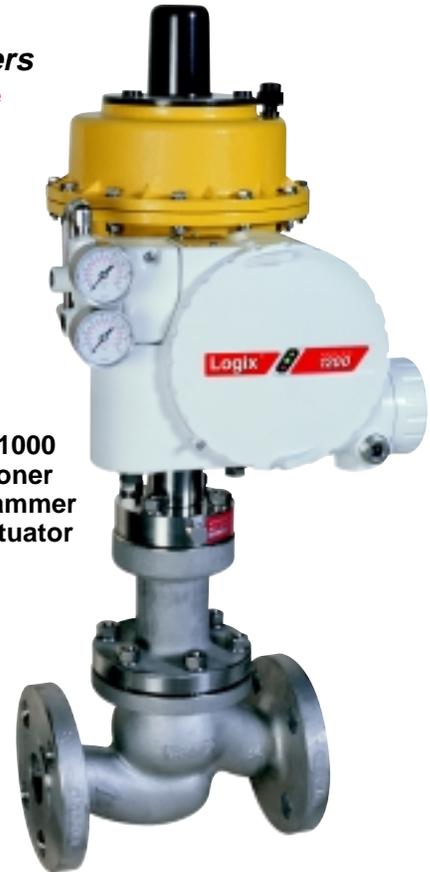
Plus more than 100 other parameters
(Red denotes additional benefits available on model with advanced diagnostics)

Data Acquisition

Valve position
4-20 mA signal
Command signal
Top actuator pressure
Bottom actuator pressure

Identification

Spool ID
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
Engineering units
Actuator size and type
Device name/description
Inlet and outlet pressure
Electronic serial number
Embedded software version
Message - up to 32 characters



**Logix Series 1000
Digital Positioner
mounted on Kammer
Model 4824 Actuator**



**Logix Series 1000 Digital
Positioner mounted on
Neles-Jamesbury Series
BC Rotary Actuator**



Logix Series 1000 Digital Positioner mounted on Masoneilan Model 35 Actuator

Preventive Maintenance

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

Diagnostics and Signatures

- Step test
- Ramp test
- Internal power test

Logix Series 1000 Variables

- Noise filter
- Integral gain
- Board current
- Travel position
- Supply pressure
- Digital input signal
- Analog input signal
- Stroke open speed
- Stroke closed speed
- Internal temperature
- Position deviation alert
- Minimum position cutoff
- Minimum proportional gain
- Maximum proportional gain
- Proportional gain multiplier
- Upper and lower travel alert
- Upper and lower soft limit stop
- Actuator pressure sensor check
- 21-point custom characterization



Logix Series 1000 Digital Positioner mounted on Fisher Series 667 Actuator

VaiTalk Features

- Two-level security
- Multiple characterization library
- Communication error log

Valtek Logix Series 1000 Wiring Schematics

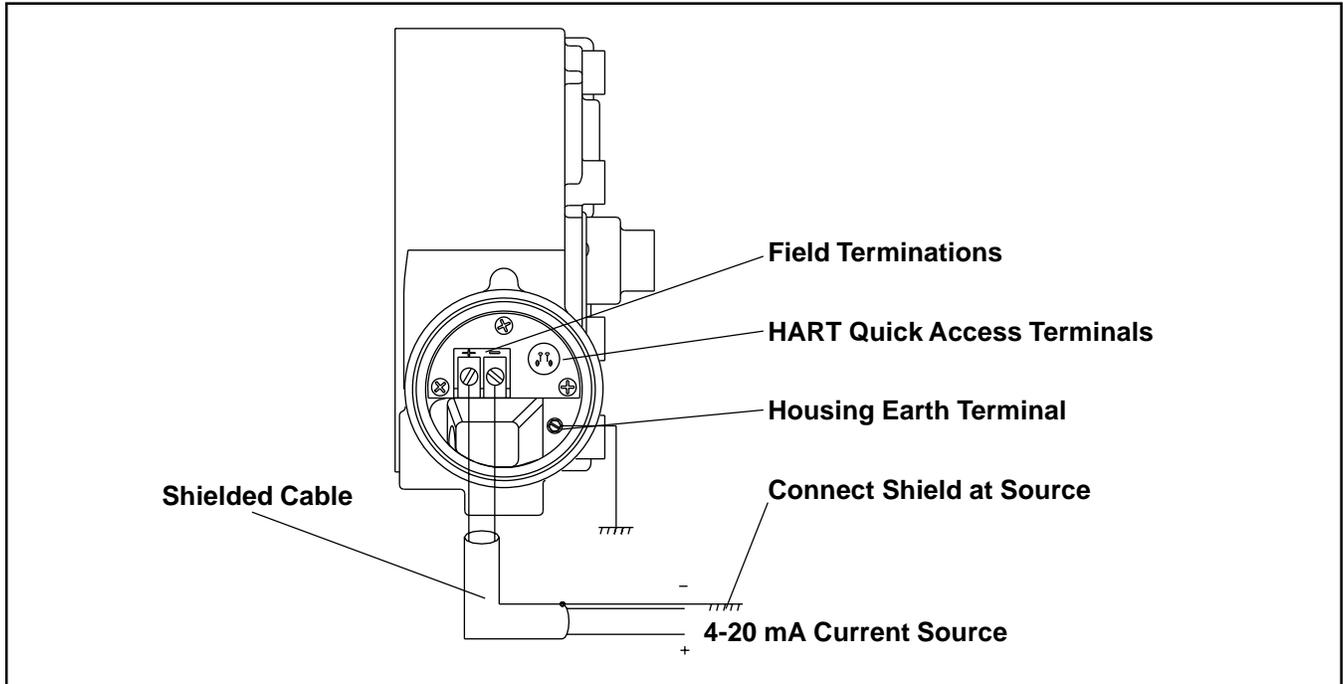


Figure 2: Logix Series 1000 Digital Positioner Wiring Schematic

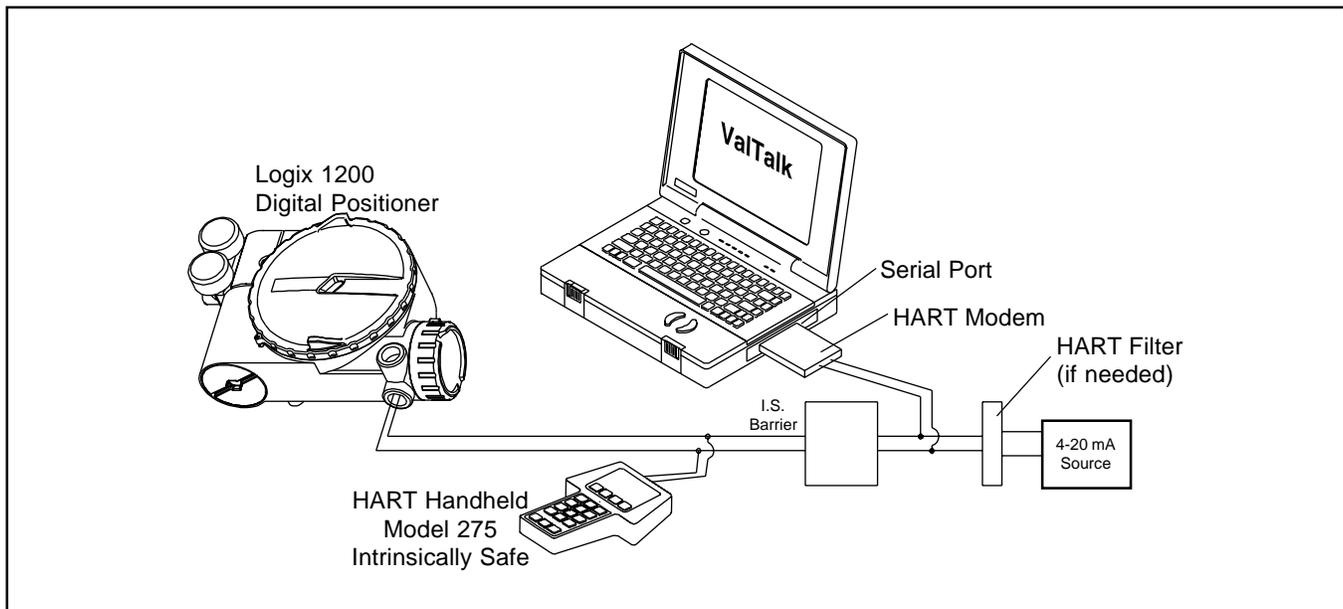


Figure 3: Wiring Diagram of 4-20 mA Input Signal and HART Communications

Optional Accessories

- HART 275 Controller
- HART Filter
- ValTalk Software
- HART Modem

Valtek Logix Series 1000 Specifications

Electrical Specifications

Power supply	Two-wire, 4-20 mA input
Compliance voltage	12 VDC
Effective resistance	600 Ω @ 20 mA
Communications	HART Protocol
Minimum required Start-up current	3.2 mA
Minimum operating current	2.8 mA

ValTalk Software Specifications

Computer	Minimum 80486 processor running Windows 95 or NT, 16 MB total memory (32 MB recommended), 20 MB available hard disk space, one 3.5-inch floppy drive
HART Compatible RS-232 Modem	Supplied with Logix module of ValTalk software

Physical Specifications

Operating Temperature Range	-40° C to +60° C -40° F to +140° F
Housing	Cast, powder-painted aluminum or stainless steel
Weight	8.5 pounds 3.9 kg aluminum 20.5 pounds 9.3 kg stainless steel

Performance Specifications

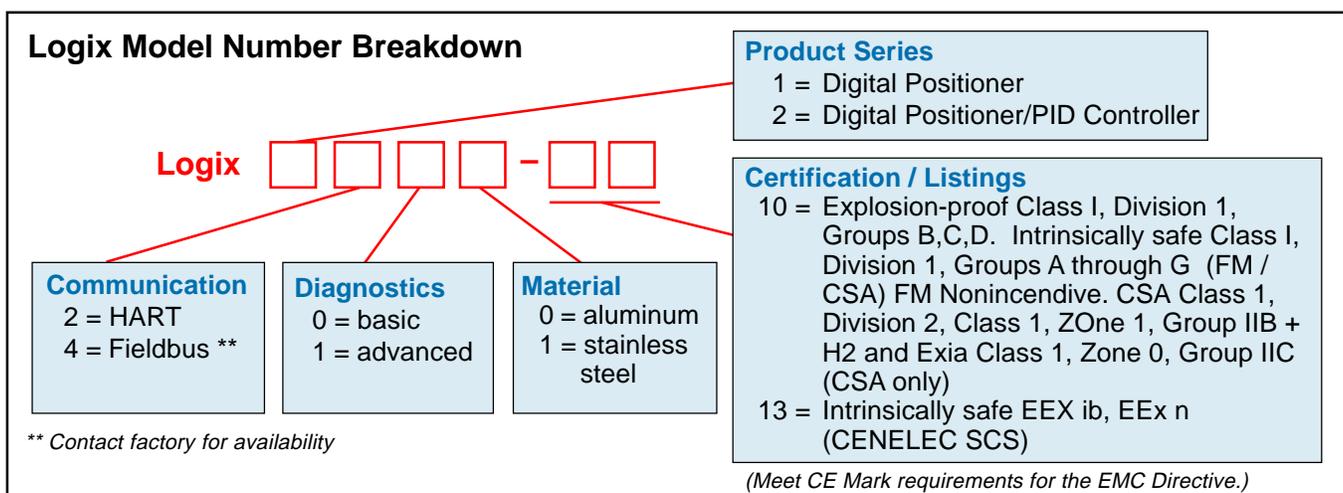
Response Level	0.1% full scale
Dead band	<0.1% full scale
Resolution	0.1% full scale
Linearity	<0.5% (rotary), <0.8% (linear) full scale
Repeatability	<0.05% full scale
Hysteresis	Avg. 0.1% full scale Max 0.2% full scale
Air Consumption at 60 psig 4 barg Max. Air Supply	<0.3 SCFM (0.5 Nm ³ /hr) 150 psig 10.3 bar

*Hazardous Area Certifications

Explosion Proof Groups	FM/CSA Class 1, Div 1, B, C, D
Non-incendive Groups	FM/CSA Class 1, Div 2, A, B, C, D EEx ib, II C, T5
Intrinsically Safe Groups**	FM/CSA Class 1, Div 1, A, B, C, D CENELEC EEx ib, II C, T4 IP-66

* At time of printing, some of these certifications were pending approval. For further information, consult factory.

** **Warning: Substitution of components may impair intrinsic safety**



Valtek Logix Series 1000

Dimensions

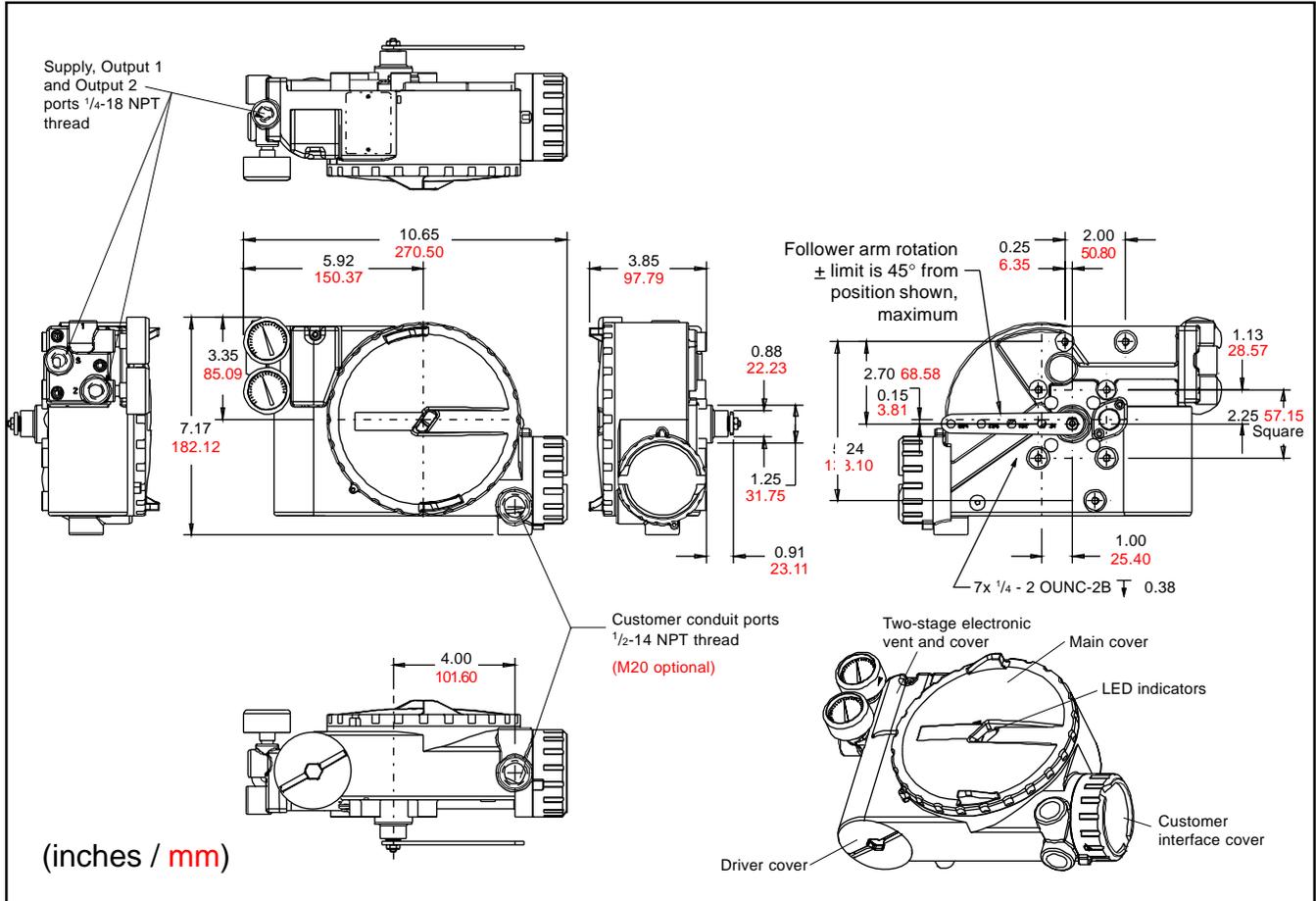


Figure 4: Certified Dimensional Drawings of the Logix Series 1000 Digital Positioner

Flowserve Corporation has established industry leadership in the design and manufacture of its products. When properly selected, this Flowserve product is designed to perform its intended function safely during its useful life. However, the purchaser or user of Flowserve products should be aware that Flowserve products might be used in numerous applications under a wide variety of industrial service conditions. Although Flowserve can (and often does) provide general guidelines, it cannot provide specific data and warnings for all possible applications. The purchaser/user must therefore assume the ultimate responsibility for the proper sizing and selection, installation, operation and maintenance of Flowserve products. The purchaser/user should read and understand the Installation Operation Maintenance (IOM) instructions included with the product, and train its employees and contractors in the safe use of Flowserve products in connection with the specific application. While the information and specifications contained presented in this literature are believed to be accurate, they are supplied for informative purposes only and should not be considered certified or as a guarantee of satisfactory results by reliance thereon. Nothing contained herein is to be construed as a warranty or guarantee, express or implied, regarding any matter with respect to this product. Because Flowserve is continually improving and upgrading its product design, the specifications, dimensions and information contained herein are subject to change without notice. Should any question arise concerning these provisions, the purchaser/user should contact Flowserve Corporation at any of its worldwide operations or offices. HART is a registered trademark of HART Communication Foundation.

For more information, contact:

For more information about Flowserve Corporation, contact www.flowserve.com or call USA 972 443 6500

Manufacturing Facilities

1350 N. Mt. Springs Prkwy.
Springville, UT 84663
Phone 801 489 8611
Facsimile 801 489 3719

Manderscheidstr. 19
45141 Essen, Germany
Telephone (49) 2 01 89 19 5
Facsimile (49) 2 01 891 9600

1300 Parkway View Drive
Pittsburgh, PA 15205 USA
Telephone 412 787 8803
Facsimile 412 787 1944

Allée du Quartz 1
CH-2300 La Chaux-de-Fonds
Switzerland
Telephone (41) 32 925 9700
Facsimile (41) 32 926 5422

Quick Response Centers

5114 Railroad Street
Deer Park, TX 77536 USA
Telephone 281 479 9500
Facsimile 281 479 8511

104 Chelsea Parkway
Boothwyn, PA 19061 USA
Telephone 610 497 8600
Facsimile 610 497 6680

