



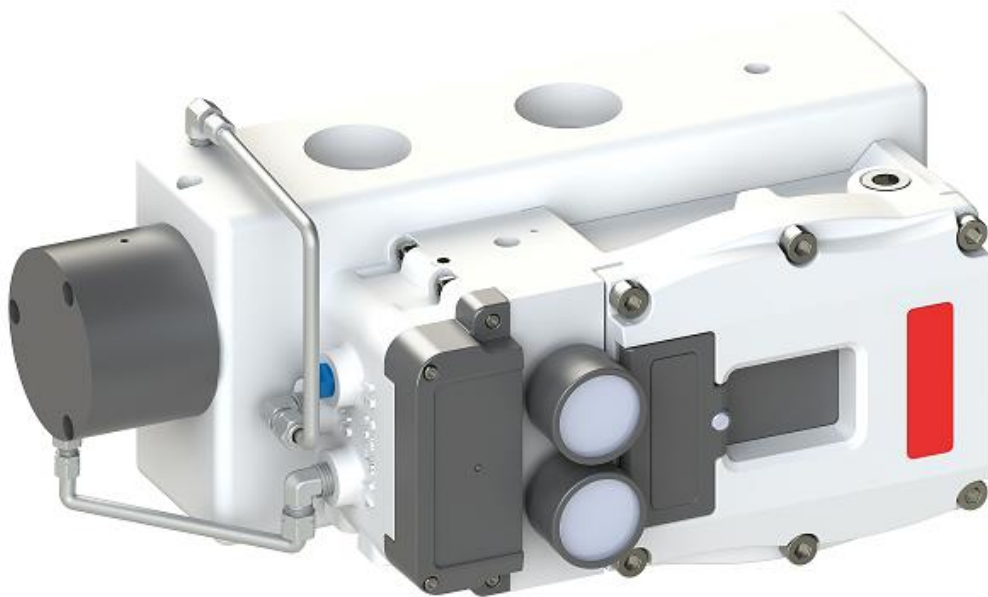
JetFlow Relay with Logix™ 3800JF

Digital Positioner Relay

AIOM000287

USER INSTRUCTIONS

*Installation
Operation
Maintenance*



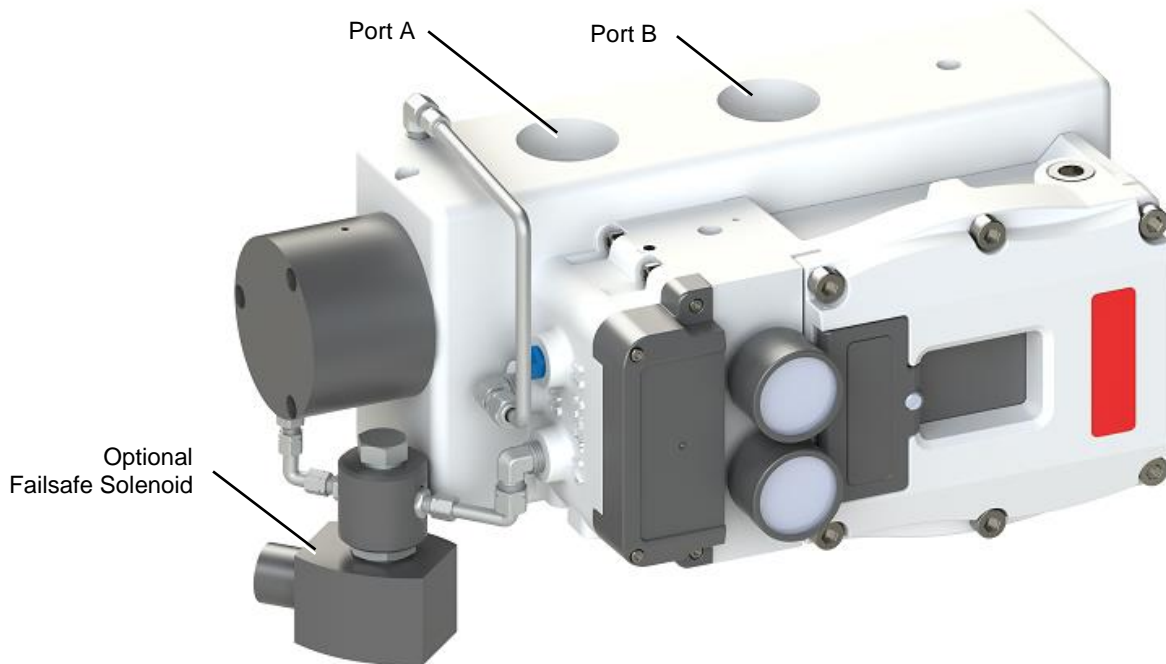
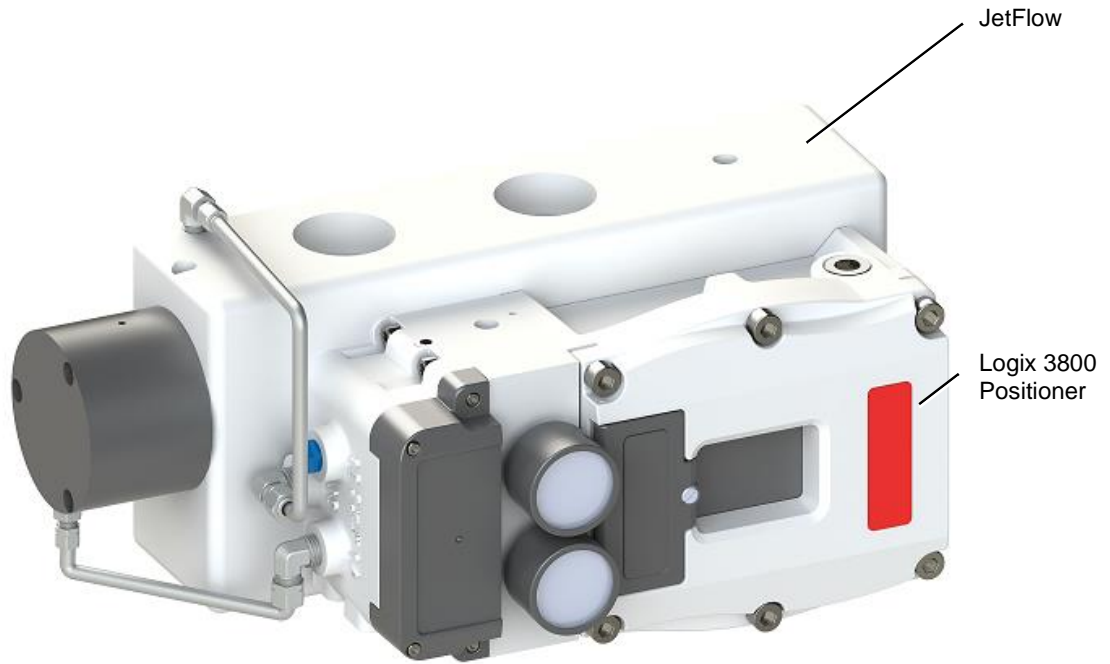
Experience In Motion

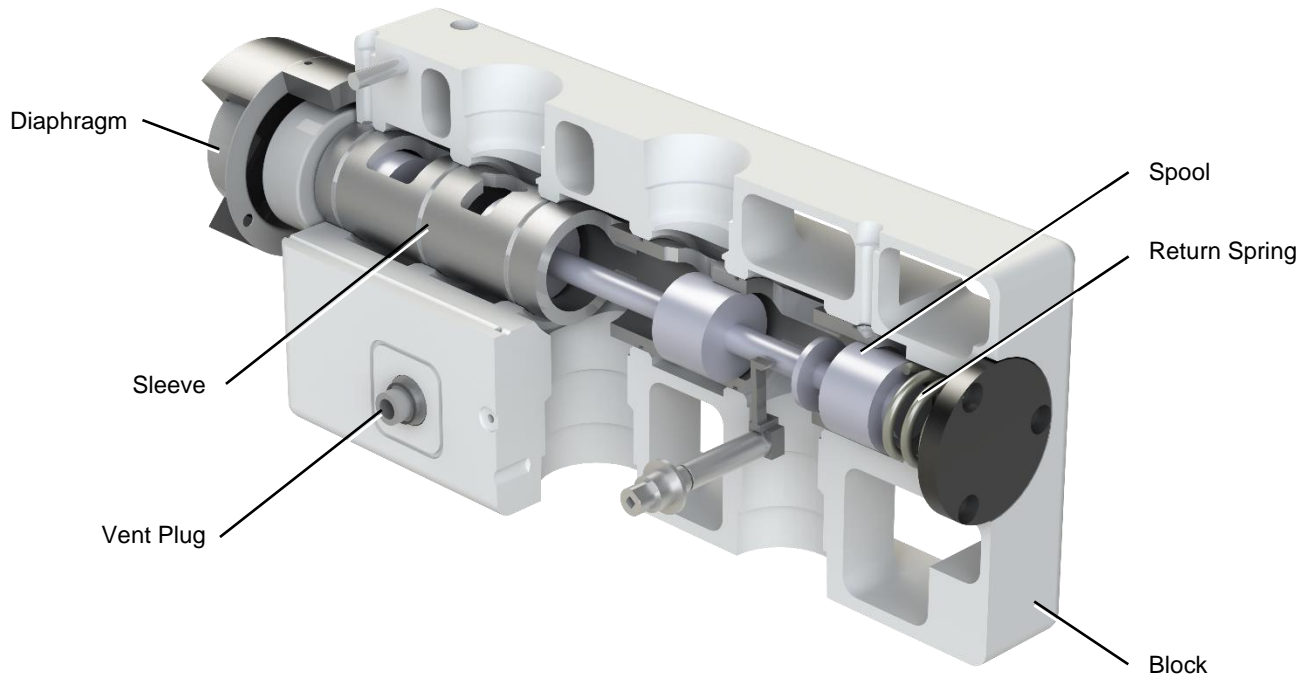
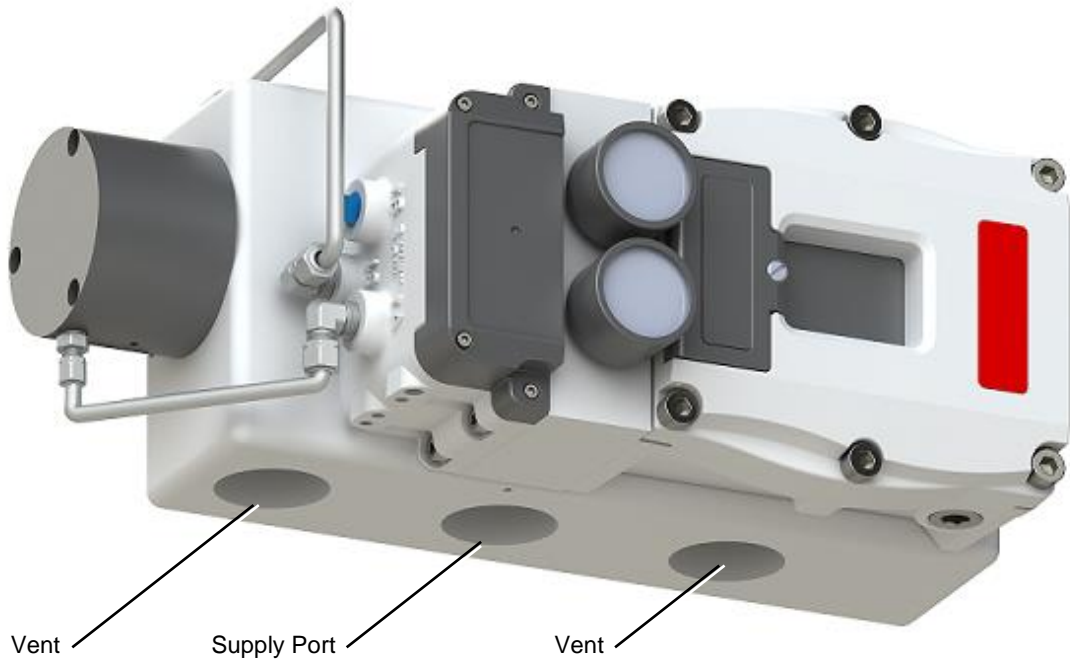
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1 QUICK START GUIDE

1.1 JetFlow Features





1.2 Applicability of manual

The following instructions are applicable to the maintenance and installation of the Flowserve Logix 3800JF and JetFlow Relay. The Logix 3800JF is an integral piece of the Logix product platform, designed specifically for applications that require speed and control of large volumes of air, such as anti-surge prevention applications.

NOTE: The Logix 3800JF utilizes a similar design layout and functionality as the Logix 3800, consequently this manual may act in part as an addendum to the Logix™ 3800 Digital Positioner IOM FCD LGENIM0112.

1.3 Safety

CAUTION: Before installation, read all safety related information in section 2 Safety Information.

1.4 Disclaimer

These instructions cannot claim to cover all details of all possible product variations, nor can they provide information for every possible example of installation, operation, or maintenance. This means that the instructions normally include only the directions to be followed by qualified personal using the product for its defined purpose. If there are any uncertainties in this respect, particularly in the event of missing product-related information, clarification must be obtained via the appropriate Flowserve sales office. All Flowserve User Manuals are available at www.flowserve.com.

1.5 Installation

MOUNTING

Securely mount the JetFlow positioner unit to the bracket attached to the actuator by using the bolt pattern on the back of the JetFlow. See section 4, Installation – Mounting, for more detail.

FEEDBACK

The JetFlow positioner unit receives actuator position feedback from a remote mount module. Check the feedback linkage is connected and the follower arm is aligned to freely move within the expected range of valve travel. Wire the remote mount leads to the positioner terminals. Refer to the Logix™ 3800 Digital Positioner FCD LGENIM0112 for instruction on how to wire the remote mount module and positioner.

PNEUMATIC CONNECTIONS

Verify the positioner is pneumatically connected to the JetFlow. Connect the JetFlow pneumatic ports to the actuator. Port A is typically connected to the side of the actuator opposing the actuator spring, while port B is typically connected to the side of the actuator to align with the action of the actuator spring. See section 5, Installation - Tubing, for more detail.

CAUTION: Connecting the supply air may cause the valve to move. Before connecting supply air, ensure the valve is isolated.

ELECTRICAL CONNECTIONS

CAUTION: Connecting the 4-20 mA signal may cause the valve to move. Before connecting electrical signal, ensure the valve is isolated.

Refer to the Logix™ 3800 Digital Positioner FCD LGENIM0112 for instruction on how to wire the positioner.


1.6 Configuration


The JetFlow positioner control software is configured at the factory prior to shipment. Factory configured settings are saved for the life of the positioner and will not be affected by a factory reset.

1.7 Calibration

CAUTION: During the QUICK-CAL operation the valve may stroke unexpectedly. Notify proper personnel that the valve will stroke, and make sure the valve is properly isolated.

QUICK-CAL

The QUICK-CAL  button is used to initiate an automatic stroke calibration. This stroke calibration determines the closed (0%) and open (100%) positions of the valve and gathers information about the response of the valve to determine the control gains. The gains are automatically set. After a QUICK-CAL calibration, the positioner is ready to control.

To perform a QUICK-CAL, press and hold the QUICK-CAL  button for approximately 3 seconds, then release.

During the calibration, the LED lights will flash Yellow-Red-Yellow-Green indicating the calibration is in progress. After the calibration is complete, the LED lights should flash Green-Green-Green-Green indicating a successful calibration.

NOTE: This first time the QUICK-CAL is performed, the positioner will also complete a Full Calibration. This will extend the time required for the calibration. This happens with Standard and Pro diagnostic levels.

GAIN SWITCH

After the calibration, (and at any time during operation), fine tune the gains by adjusting the Selectable GAIN Switch. Selecting “A” through “D” will provide a more stable or slower response. Selecting “F” through “J” will provide a more active or quicker response. The “E” position is the default and is typically more stable.

--- END OF QUICK START GUIDE ---

2 SAFETY INFORMATION

2.1 Using This Document

The following instructions are designed to assist in unpacking, installing, and performing maintenance as required on JetFlow. Product users and maintenance personnel should thoroughly review this instruction prior to unpacking, installing, operating, or performing any maintenance. In most cases, Flowserve valves, actuators and accessories are designed for specific applications (e.g. with regard to medium, pressure, and temperature). For this reason, they should not be used in other applications without first contacting the manufacturer. The product Installation, Operation, and Maintenance Instructions provides important additional safety information

NOTE: Failure to comply with the information provided in the User Instructions is considered to be misuse. Personal injury, product damage, delay in operation, or product failure caused by misuse are not covered by the Flowserve warranty.

Refer to the appropriate user instructions for the positioner, valve, actuator, or other portions of the system and other accessories as needed.

2.2 Terms Concerning Safety

The safety terms **NOTE**, **CAUTION**, and **DANGER** are used in these instructions to highlight hazards and to provide additional information on aspects that may not be readily apparent. **DANGER** and **CAUTION** notes must be strictly followed to avoid possible injury to personnel or damage to equipment or property.

NOTE: Indicates and provides additional technical information, which may not be obvious.

CAUTION: Proper precautions must be observed to avoid minor personal injury and property damage.

DANGER: Indicates that death, severe personal injury and/or substantial property damage can occur if proper precautions are not taken.

Compliance with notes about installation, operation, maintenance, and technical documentation (e.g. in the operating instruction, product documentation or on the JetFlow) is essential to avoid faults, which in themselves might directly or indirectly cause severe personal injury or property damage.

2.3 Protective Clothing

The JetFlow uses high-pressure air to operate. Use eye protection when working around pressurized equipment.

DANGER: Standard industry safety practices must be adhered to when working on this or any process control product. Specifically, use personal protective equipment as warranted.

2.4 Qualified Personnel

Qualified personnel are people who, on account of their training, experience, instruction and their knowledge of relevant standards, specifications, accident prevention regulations and operating conditions, have been authorized by those responsible for the safety of the plant to perform the necessary work and who can recognize and avoid possible dangers.

2.5 System Product Variations

These instructions cannot claim to cover all details of all possible product variations, nor can they provide information for every possible example of installation, operation scenario, or maintenance requirement. Qualified personnel should follow the instructions provided and only use the product for its defined purpose. If clarification is needed or there are any uncertainties in this respect, particularly in the event of missing product-related information, immediately contact the appropriate Flowserve sales office. Contact information is listed at the back of this manual.

2.6 Spare Parts

Use only FLOWSERVE original components. FLOWSERVE cannot accept responsibility for any damages that occur from using components or fastening materials from other manufacturers. If FLOWSERVE products (especially sealing materials) have been in storage for longer periods, check them for corrosion or deterioration before using these products.

2.7 Service / Repair

CAUTION: Proper precautions must be strictly observed to avoid possible personal injury and property damage.

DANGER: Substitution with non-factory replacement components may result in product and system failure.

Send the JetFlow to the manufacturer for service and/or repair. Contact the Flowserve for additional information.

Modifying this product, substituting non-factory parts, or using maintenance procedures other than outlined in this instruction could drastically affect performance and be hazardous to personnel and equipment, and may void existing warranties.

Use caution to avoid pinch point hazards during service and repair operations.

⚠ CAUTION: *Before returning products to FLOWSERVE for repair or service, provide a certificate to FLOWSERVE which confirms that the product has been decontaminated and is clean; FLOWSERVE will not accept deliveries if a certificate is not provided (a form is available from FLOWSERVE).*

Apart from the operating instructions and the necessary accident prevention directives valid in the country of use, follow all recognized regulations for safety and good engineering practices.

3 PRE-INSTALLATION

3.1 Storage

It is mandatory to store the FLOWSERVE JetFlow in a clean, dry environment. Prevent flooding of the equipment, including rainwater, that can pool in packaging materials. Prevent dirt or sand accumulation in the pneumatic ports and vents.

If FLOWSERVE products have been in storage for longer periods, check them for corrosion or deterioration before using these products. The end user is responsible for providing fire protection for FLOWSERVE products.

3.2 Unpacking

While unpacking the JetFlow positioner unit, check the packing list against the materials received. Each shipping container includes a list describing the system and accessories included.

In the event of shipping damage, contact the shipper immediately. Should any problems arise, please contact a FLOWSERVE Flow Control Division representative. Phone numbers are at the back of the manual.

3.3 Pre-installation Inspection

When installing a JetFlow positioner assembly, check the remote mount module, wiring and pneumatic connections are secure.

If there is contamination in the unit, clean the JetFlow and positioner gently with a soft damp cloth.

3.4 Label Verification

Verify that the labels match the intended application. See section 13, Hazardous Location Specifications, for more details.

NOTE: The installer should mark the checkbox on the label that is appropriate for the intended use of the Logix 3800JF.

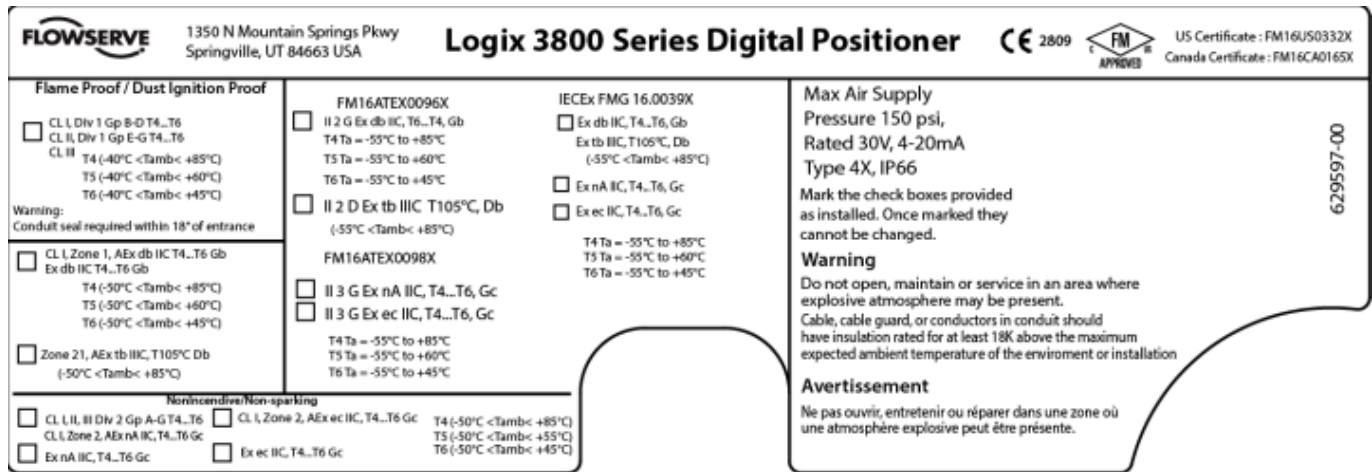


Figure 1: Certification Labels (Explosion Proof Housing)

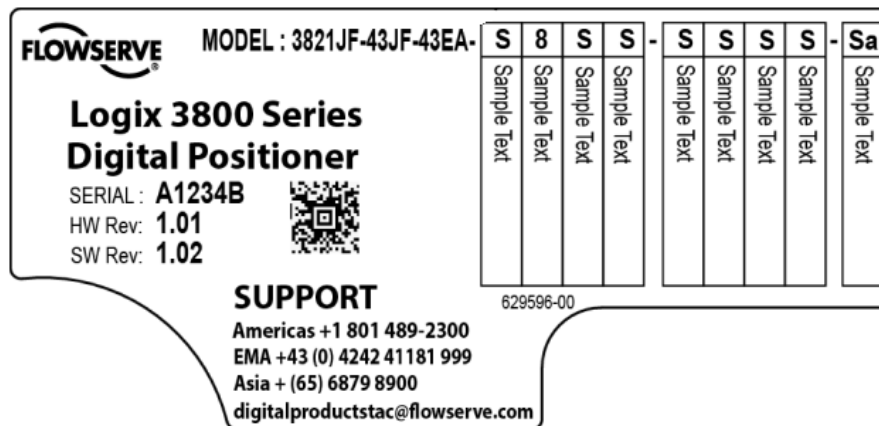


Figure 2: Certification Labels (Explosion Proof Housing)

Figure 3: Model Code Label

4 INSTALLATION – MOUNTING

4.1 Mounting to the Valve Actuator Assembly

To attach a JetFlow positioner unit to a valve actuator assembly refer to Figure 4: Mounting to Valve Actuator Assembly and proceed as outlined below.

1. Align the JetFlow positioner unit with the three holes in the mounting bracket. Fasten with three M12 screws.
2. Align the bracket with the four holes on the yoke mounting pads. Secure the bracket with four 1/2" - 13UNC bolts and 1/2" washers.

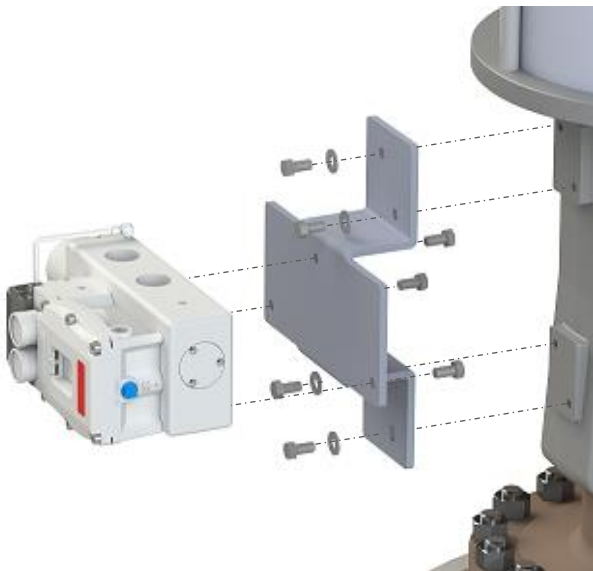


Figure 4: Mounting to Valve Actuator Assembly

5 INSTALLATION - TUBING

After mounting to the actuator, tube the JetFlow. For best performance, use 25.4mm (1 inch) to 31.8mm (1.5 inch) tubing.

5.1 Determine Air Action

When an air supply is present, and the relay is energized, port A delivers air. Typically, the tubing from port A is connected to the side of the actuator that results in the air compressing the actuator spring. When tubed this way, the actuator and JetFlow spring are designed to return the valve to the fail-safe state if supply air or power to the unit fails or is turned off.

Tube port A to the side of the actuator that must receive air to begin moving away from the fail-safe state.

Verify the positioner DIP switch is correctly set for the air tubing configuration. Refer to *Logix™ 3800 Digital Positioner FCD LGENIM0112* or more information about setting the positioner DIP switches.

Connect port B to the other side of the actuator.

DANGER: Proper tubing orientation is critical for the positioner to function correctly and have the correct failure mode. The backward tubing could cause an unsafe failure mode.

Example: Tubing Linear Double-Acting Actuators

For a linear air-to-open actuator, the tubing from port A is connected to the bottom side of the actuator (closest to the valve). Tube port B of the JetFlow to the top side of the actuator. See Figure 5: Linear, Double Acting, Air to Open. For a linear air-to-close actuator the tubing configuration is reversed.

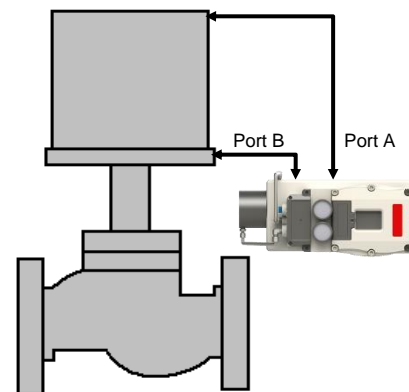


Figure 5: Linear, Double Acting, Air to Open

5.2 Connect Supply Port

For best performance use a 31.75mm (1.25 inch) to 31.8mm (1.5 inch) supply line to connect to the supply port.

Install a coalescing filter in the supply air line to maintain the recommended air quality.

Use a supply regulator to control the supply pressure in applications where the supply pressure is higher than the maximum actuator pressure rating. The regulator is required to lower the pressure to the actuator's maximum rating.

DANGER: Exceeding the maximum actuator supply pressure may cause the actuator to explode, causing death, injury, or property damage.

5.3 Venting

NOTE: A JetFlow relay vents air directly to the atmosphere through two vent ports.

The vent ports are located on the front of the JetFlow. The port is tapped with a 1/4 NPT thread and shielded with a protective cover.



NOTE: To meet the requirements of captured vented air, air must be captured from the JetFlow vent ports and the positioner vent port. Refer to the *Logix™ 3800 Digital Positioner FCD LGENIM0112* for instructions to capture vented positioner air.

To capture vented air from the JetFlow remove the JetFlow vent covers and connect the necessary tubing/piping to the ports.

6 OPERATION - HOW IT WORKS

6.1 Basic Operation

The JetFlow is a spool and block pneumatic relay designed to work in conjunction with the Logix 3820 digital positioner to make large actuator position changes within seconds.

The Logix 3820 positioner receives 4-20 mA input position signals through HART communication protocol. The positioner translates the electrical position control signals into pneumatic signals, which activate the JetFlow, to relay supply air to the actuator, causing it to move to command position.

NOTE: A solenoid may be added to the system as a secondary failsafe measure. The solenoid can be connected in series along the pneumatic control signal from the positioner port A to the JetFlow diaphragm. The solenoid must be energized for the JetFlow to operate.

7 OPERATION – DIP SWITCH CONFIGURATION

Before placing the unit in service verify the DIP Switches are set to the desired control options. The functionality of the DIP Switches is the same for the Logix 3800JF and Logix 3800, see Figure 6: Local User Interface. However, certain DIP Switches are required to be set specifically for use with the JetFlow relay.

NOTE: DIP Switch settings do not take effect immediately but are activated by performing a Stroke Calibration (pressing the “QUICK-CAL” button for 3 seconds). DIP switch settings may be edited from the DTM or Handheld at any time.

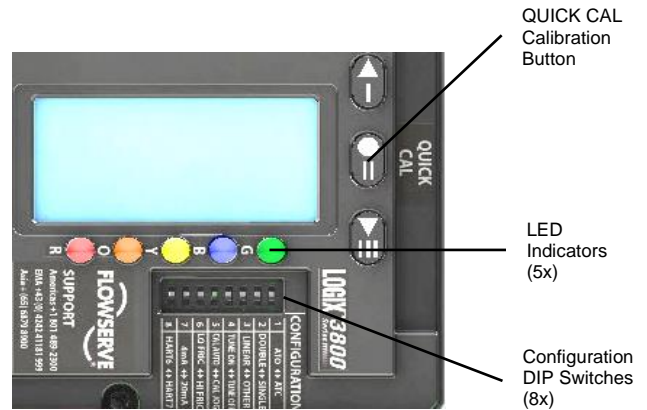


Figure 6: Local User Interface

7.1 Actuator Switch (DOUBLE ◀▶ SINGLE)

The actuator switch must be set to Double to work correctly with the JetFlow relay.

Refer to *Logix™ 3800 Digital Positioner FCD LGENIM0112* for more information about setting the positioner DIP switches

8 OPERATION -USER INTERFACE


8.1 Current Alarm Status

The current alarm status area of the positioner LCD will display the highest priority alarm, warning, alert, or status indication of the JetFlow or positioner. This matches the code indicated by the flashing LEDs

8.2 Status Icons

A JetFlow status icon, represented as a JF, will display on the positioner LCD screen. The status icon indicates a JetFlow is connected and recognized by the positioner and that the positioner is operating JetFlow control software. See Table 1: Status Icon for an illustration of the JetFlow status icon.

Table 1: Status Icon

Icon Name	Icon Image	Icon Meaning
JetFlow		JetFlow relay connected & recognized






8.3 LEDs and Status Codes

LEDs give two types of status codes. The first type is a single-color NAMUR status. The second type is a 4-blink status that correlates to a specific positioner error or condition. Regardless of the type of code (1 blink or 4), the LEDs always indicate a code corresponding to the highest priority alarm, warning, alert, or status that is currently active.

8.3.1 Single Blink NAMUR Color Codes

If buttons on the positioner have not been pressed recently, the positioner will blink one color. This color represents one of the 5 conditions outlined in the NAMUR standard, NE-107. These are listed in Table 2: NE 107 Status Code. How these colors are assigned to specific conditions can be customized in the DTM.

Table 2: NE 107 Status Code

Single Blink Color	Simplified Symbol	NE 107 Indication
G		Diagnostics active – No issues
B		Maintenance
Y		Out of specification
O		Check function
R		Failure

8.3.2 4-Blink Status Codes

When a button is pressed on the positioner, the color code will expand to a 4-color sequence. This corresponds to one of the specific status indications listed in Appendix A - 4-Blink Status Codes. When multiple codes are active, only the highest priority condition is represented by the blink code. To see all the active alarms and status conditions, use a DD or DTM.

9 MAINTENANCE – TROUBLESHOOTING

Below are some common solutions related to commissioning the JetFlow. If the recommended corrective actions do not resolve the issue, return the JetFlow unit to the factory for repair or replacement. Additional information about errors is available in APPENDIX A – 4-BLINK STATUS CODES

9.1.1 Troubleshooting Guide

Table 3: Troubleshooting Guide

Issue	Corrective Action
Loss of function	<ol style="list-style-type: none"> 1. Verify air supply minimum pressure is 2.1 bar (30 psi) 2. Verify there is a 4-20 mA power signal to the positioner 3. If a solenoid is integrated into the system, verify current is going to solenoid, solenoid is functioning correctly, and solenoid is energized. The JetFlow will not operate if the solenoid is not energized.
Inaccurate feedback position reading	<ol style="list-style-type: none"> 1. Verify remote mount circuit is connected according to the Logix 3800 LGENIM0112 instructions.

10 MAINTENANCE - HELP FROM FLOWSERVE

10.1 Phone Support

Over-the-phone troubleshooting is available for JetFlow relay issues. Should the JetFlow experience problems, or if you have questions that are not answered by this manual, feel free to call your local sales representative or a Quick Response Center (QRC).

Contact your nearest FLOWSERVE sales representative.
 Europe +43 (0) 4242 41181 999
 North America +1 801 489-2300
 Asia + (65) 6879 8900
 digitalproductstac@flowserve.com

See the back cover of this manual for additional contact details.

10.2 Returning the JetFlow for Service

Returning the Logix 3800JF and JetFlow Relay as a unit is an option if remote troubleshooting is unable to solve the problem. Please follow the steps below.

1. Request a Return Goods Authorization (RGA) form. The form should arrive in an email.
2. Remove fittings, brackets, filters, feedback arms, etc. from the unit before packaging.
3. Complete the RGA form. Write any issues with the JetFlow you would like us to evaluate. Please include the customer name and contact information.
4. When packaging, please secure the unit in a method that will ensure it will reach our facility undamaged (the weight of JetFlow will often settle through packing peanuts and pop large air pockets).

5. Please insert a copy of the completed RGA form inside the package and write the RGA number on the outside of the package. Send the unit to the address at the bottom of the form.

If the cause of the unit failure is found to be a manufacturing defect and the unit is within the warranty period, it will be repaired free of charge. There is a fee for the evaluation in the event there is no problem found with the unit, and the unit is still under warranty. A fee will be charged for the evaluation if the warranty does not cover the cause of the unit failure. A quote will be provided showing the cost of the repair. Waiving of the fee requires the customer to purchase a new JetFlow.

10.3 Disposal

Refer to the *Logix™ 3800 Digital Positioner FCD LGENIM0112* for information about disposal of the positioner and JetFlow.

11 JETFLOW SPECIFICATIONS

11.1 Air Supply

Table 4: Air Supply

Minimum Input Pressure	2.1 Bar (30 PSI)
Maximum Input Pressure	10.3 Bar (150 PSI)
Air Supply Quality	The air supply must be free from moisture, oil, and dust by conforming to the ISA 7.0.01 standard. (A dew point at least 18° F below ambient temperature, particle size below five microns, and oil content not to exceed one part per million).
Operating Humidity	0 - 100% non-condensing
Acceptable Supply Gasses	Air
Air Consumption	1.0 SCFM

11.2 Positioner Performance Characteristics

Table 5: Performance Characteristics

Better than or equal to the following values on a 200 square inch actuator.	
Linearity	+/-1.25%
Repeatability	≤ 0.25%
Hysteresis	≤ 1.0%
Deadband	≤ 0.3%
Sensitivity	≤ 0.25%
Stability	≤ 0.4%
Step Resolution	≤ 0.25%

NOTE: Performance tested according to ISA 75.13.

11.3 Temperature

Table 6: Temperature

Operating Temperature Range	-40°C to 85°C (-40°F to 185°F)
Transport and Storage Range	-40°C to 85°C (-40°F to 185°F)

11.4 Physical Specifications

Table 7: Physical Specifications

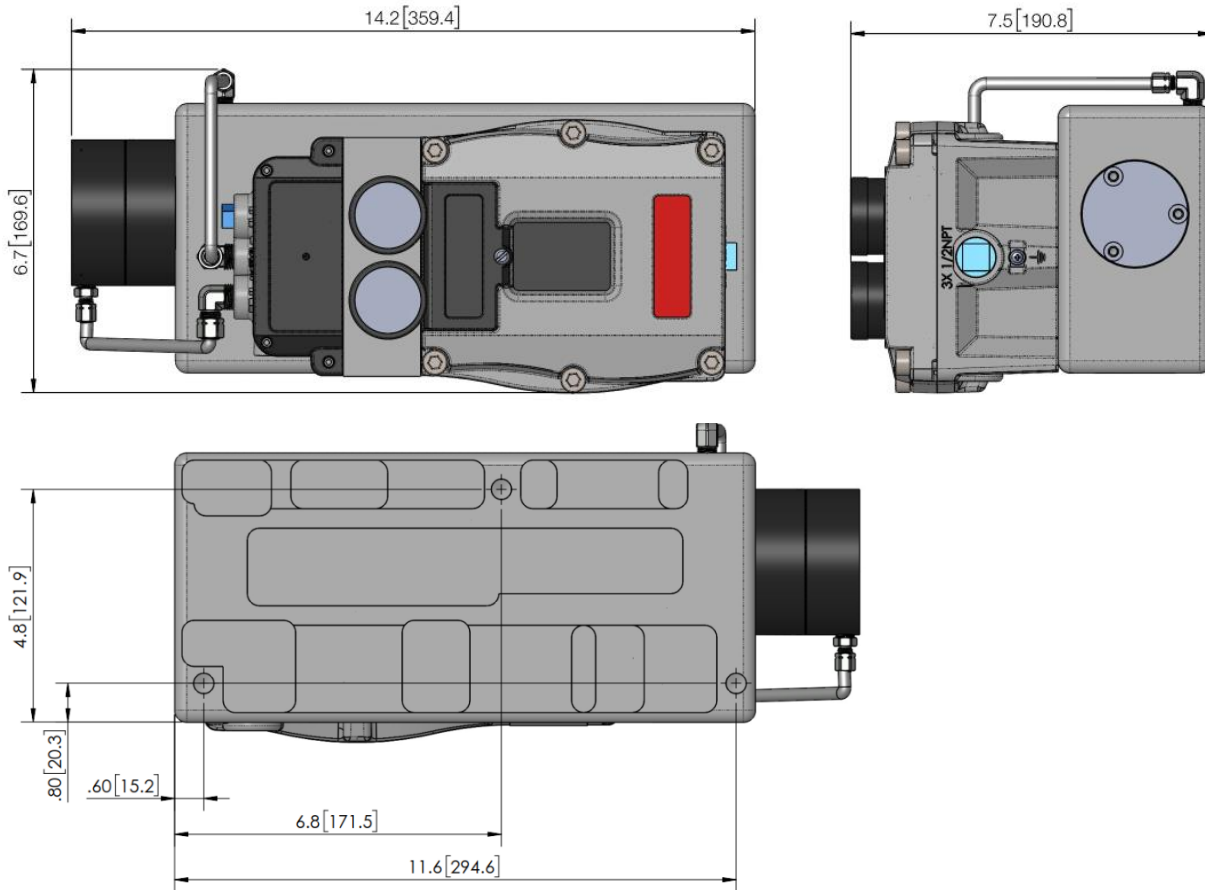
Housing Material	Cast, powder-painted Copper-free aluminum (EN AC-43400/EN AC-AISi10Mg(Fe))
Soft Goods	Buna-N, Fluorosilicone, Teflon and Fluorocarbon
Weight of JetFlow With Positioner	28lbs 8 oz

11.5 JetFlow Capacities

Table 8: JetFlow Capacities

Port Size	1.00 in.	1.25 in.	2.00 in.
Max. Flow @ 60 psi	300 SCFM (Cv 9)	700 SCFM (Cv 21)	1,800 SCFM (Cv 50)
Steady-State Air Consumption	0.75 SCFM (Cv 0.020)	1.0 SCFM (Cv 0.027)	2.0 SCFM (Cv 0.054)

11.6 Dimensions



12 SIL 3 REQUIREMENTS FOR SAFETY INTEGRITY

This section provides information and additional user responsibilities to be capable of Safety Integrity Level 3 (SIL 3) per IEC 61508.

12.1 Safety Function

Assembled with a Logix 3800 positioner, the JetFlow relay moves to a fail-safe state upon the removal of air supply.

12.2 Fail Safe State

The fail-safe state for the JetFlow relay spool is at less than 5% of full travel such that output port A is venting.

NOTE: *The failsafe state above represents the fail-safe state of the JetFlow. The valve fail-safe state may be different depending on spring configuration and tubing. Ensure the fail-safe valve state is appropriate for your application.*

12.3 Time to Move to Fail Safe State

The JetFlow relay may take up to 1.00 seconds to move from fully energized (using tight shutoff) to the de-energized (fail safe) state.



12.4 Installation

Verify assembly of the JetFlow relay to the Logix 3800. Verify installation of the JetFlow relay positioner assembly is secure and correct according to this manual. Ensure tubing is configured to the actuator so that the fail-safe state of the positioner matches the desired fail-safe state of the valve.

13 Hazardous Location Specifications

13.1 Hazardous Location Information

Table 9: Hazardous Location Information – Logix 3800JF EX

Certification Code	Area	Protection Method	Markings	Temperature Code	Enclosure Ratings
 43	US / CANADA	Explosion Proof	XP - Class I, Div 1, Groups B,C,D, T6...T4	T4 = -40C to +85C T5 = -40C to +55C T6 = -40C to +45C	Type 4X, IP66
			US - Class I, Zone 1, AEx db IIC T6...T4 Gb		
			CANADA- Ex db IIC T6...T4 Gb		
	ATEX	Explosion Proof	II 2 G - Ex db IIC T6...T4 Gb	T4 = -55C to +85C T5 = -55C to +55C T6 = -55C to +45C	
			Dust		
		IECEx	Explosion Proof	Ex db IIC T6...T4 Gb	
Dust				Ex tb IIIC T105°C Db Ta = -55C to +85C	

13.2 Warnings and Special Conditions for Safe Use

Warning!

- Substitution of components may Impair Intrinsic safety.
- DO NOT OPEN, MAINTAIN OR SERVICE IN AN AREA WHERE AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT

Special Conditions for Safe Use:

- For Intrinsically Safe installations the positioner must be connected to suitably rated intrinsically safe equipment and must be installed in accordance with applicable intrinsically safe installation standards.
- Use appropriately rated cable insulation at higher temperatures.
- Cable, cable guard, or conductors in conduit should have insulation rated for at least 18K above the maximum expected ambient temperature of the environment or installation.
- Contact Flowserve for Flame Path information.
- The Model 3820JF and 3821JF Positioner enclosures contain aluminum and are considered to present a potential risk of ignition by impact or friction. Care must be taken into account during installation and use to prevent impact or friction. Clean only with damp cloth.
- Provisions shall be made externally to provide transient overvoltage protection to a level not to exceed 140% of the peak rated input voltage.
- Using the box provided on the nameplate, the User shall permanently mark the type of protection chosen for the specific installation. Once the type of protection has been marked it shall not be changed.
- Potential electrostatic charging hazard. Clean only with a damp cloth.
- Discontinue use of equipment if the fasteners securing the enclosure cover or the cover window are damaged. Contact Flowserve for repair.

AVERTISSEMENT:

- La substitution de composants peut compromettre la sécurité intrinsèque.
- NE PAS OVRIR, MAINTENIR OU SERVIR DANS UNE ZONE OU UNE ATMOSPHERE EXPLOSIVE PEUT ÊTRE PRÉSENTE

Assessed to the following US standards: FM Class 3600 :2011, Class 3610 :2010, FM Class 3615:2006, FM Class 3616:2011, FM Class 3810: 2005, ANSI/ISA 60079-0:2013, ANSI/ISA 60079-1:2015, ANSI/ISA 60079-11:2014, ANSI/NEMA 250:2003, ANSI/IEC 60529:2004, INSI/ISA 60079-1: 2009

13.3 Control Drawing – North America Connection Diagram



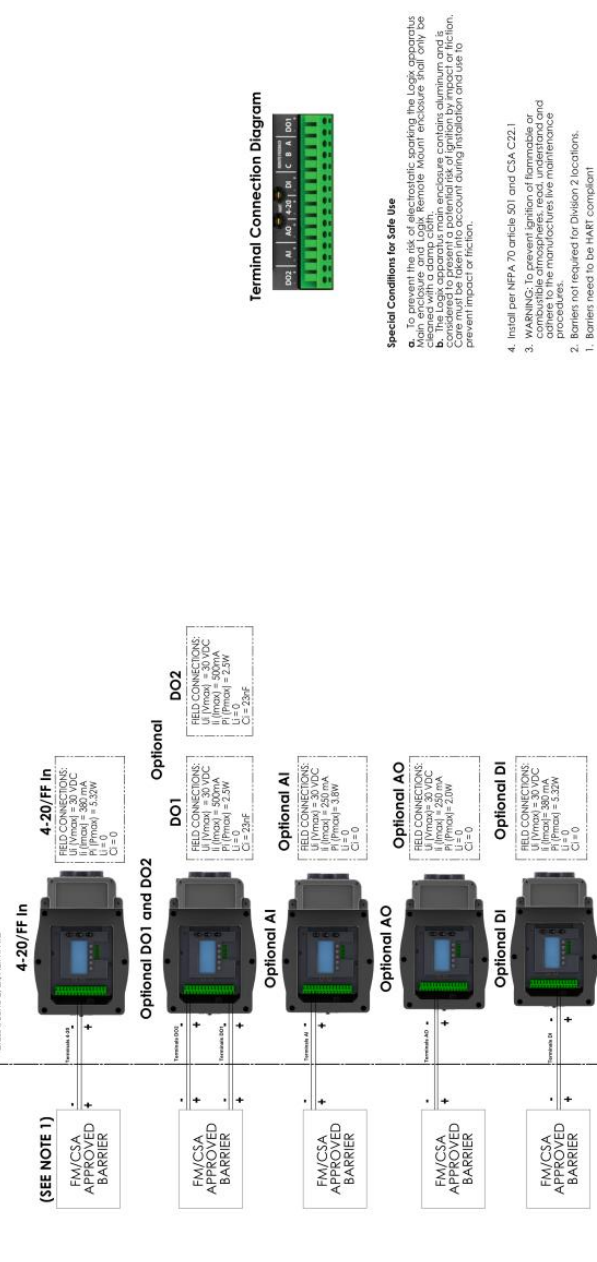
NORTH AMERICA CONNECTION DIAGRAM

Class 1, Zone 2, Application must be installed in a non-hazardous area (see note 1) and must be installed in a non-hazardous area (see note 1) and must be installed in a non-hazardous area (see note 1).

UNCLASSIFIED AREA
 Non-Incandescent For Class I, II, Division 1, Groups A, B, C, D, E, F, G
 Class 1, Zone 1, E/A/AE/B/C
 Class 1, Zone 2, E/A/AE/B/C
 Class 1, Zone 2, E/A/AE/B/C

HAZARDOUS AREA (EXPOSIVE ATMOSPHERE)
 Class I, II, Division 1, Groups A, B, C, D, E, F, G
 Class 1, Zone 1, E/A/AE/B/C
 Class 1, Zone 2, E/A/AE/B/C

Do not use the device in a hazardous area (see note 1) and must be installed in a non-hazardous area (see note 1) and must be installed in a non-hazardous area (see note 1).



Terminal Connection Diagram



- Special Conditions for Safe Use**
- To prevent the risk of electrostatic sparking the Logic apparatus must be cleaned with a damp cloth.
 - The Logic apparatus must not be used in a hazardous area (see note 1) and must be installed in a non-hazardous area (see note 1) and must be installed in a non-hazardous area (see note 1).
- Barriers not required for Division 2 locations.
 - Barriers need to be HART compliant
 - Install per NFPA 70 article 501 and CSA C22.1
 - WARNING:** To prevent ignition of flammable or combustible atmospheres, read, understand and comply with the manufacturer's live maintenance procedures.

DATE	REV	DESCRIPTION
01/10/11	01	ISSUE FOR PRODUCTION
02/10/11	02	REVISION 1
03/10/11	03	REVISION 2
04/10/11	04	REVISION 3
05/10/11	05	REVISION 4
06/10/11	06	REVISION 5
07/10/11	07	REVISION 6
08/10/11	08	REVISION 7
09/10/11	09	REVISION 8
10/10/11	10	REVISION 9
11/10/11	11	REVISION 10
12/10/11	12	REVISION 11
01/12/12	13	REVISION 12
02/12/12	14	REVISION 13
03/12/12	15	REVISION 14
04/12/12	16	REVISION 15
05/12/12	17	REVISION 16
06/12/12	18	REVISION 17
07/12/12	19	REVISION 18
08/12/12	20	REVISION 19
09/12/12	21	REVISION 20
10/12/12	22	REVISION 21
11/12/12	23	REVISION 22
12/12/12	24	REVISION 23
01/13/13	25	REVISION 24
02/13/13	26	REVISION 25
03/13/13	27	REVISION 26
04/13/13	28	REVISION 27
05/13/13	29	REVISION 28
06/13/13	30	REVISION 29
07/13/13	31	REVISION 30
08/13/13	32	REVISION 31
09/13/13	33	REVISION 32
10/13/13	34	REVISION 33
11/13/13	35	REVISION 34
12/13/13	36	REVISION 35
01/14/14	37	REVISION 36
02/14/14	38	REVISION 37
03/14/14	39	REVISION 38
04/14/14	40	REVISION 39
05/14/14	41	REVISION 40
06/14/14	42	REVISION 41
07/14/14	43	REVISION 42
08/14/14	44	REVISION 43
09/14/14	45	REVISION 44
10/14/14	46	REVISION 45
11/14/14	47	REVISION 46
12/14/14	48	REVISION 47
01/15/15	49	REVISION 48
02/15/15	50	REVISION 49
03/15/15	51	REVISION 50
04/15/15	52	REVISION 51
05/15/15	53	REVISION 52
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10/15/15	58	REVISION 57
11/15/15	59	REVISION 58
12/15/15	60	REVISION 59
01/16/16	61	REVISION 60
02/16/16	62	REVISION 61
03/16/16	63	REVISION 62
04/16/16	64	REVISION 63
05/16/16	65	REVISION 64
06/16/16	66	REVISION 65
07/16/16	67	REVISION 66
08/16/16	68	REVISION 67
09/16/16	69	REVISION 68
10/16/16	70	REVISION 69
11/16/16	71	REVISION 70
12/16/16	72	REVISION 71
01/17/17	73	REVISION 72
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03/17/17	75	REVISION 74
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04/18/18	88	REVISION 87
05/18/18	89	REVISION 88
06/18/18	90	REVISION 89
07/18/18	91	REVISION 90
08/18/18	92	REVISION 91
09/18/18	93	REVISION 92
10/18/18	94	REVISION 93
11/18/18	95	REVISION 94
12/18/18	96	REVISION 95
01/19/19	97	REVISION 96
02/19/19	98	REVISION 97
03/19/19	99	REVISION 98
04/19/19	100	REVISION 99
05/19/19	101	REVISION 100

APPENDIX A – 4-BLINK STATUS CODES

NOTE: Not all codes apply to all positioners. The order of sorting is **G B Y O R**.

Color Code	Status	Color Code	Status
G G G G	JetFlow (JF) Pressure Control Locked	R R Y R	JetFlow (JF) Can't Shut
G G B B	JetFlow (JF) Backup Control Mode	R R Y R	Relay Fail Alarm
Y R Y G	JetFlow (JF) Stroke Calibration in Progress	R R Y R	Relay Type Unknown
R G O O	JetFlow (JF) Calibration Error	R R R O	JetFlow (JF) Inner Loop Offset Out-of-Range Warning
R R Y R	JetFlow (JF) Can't Open		

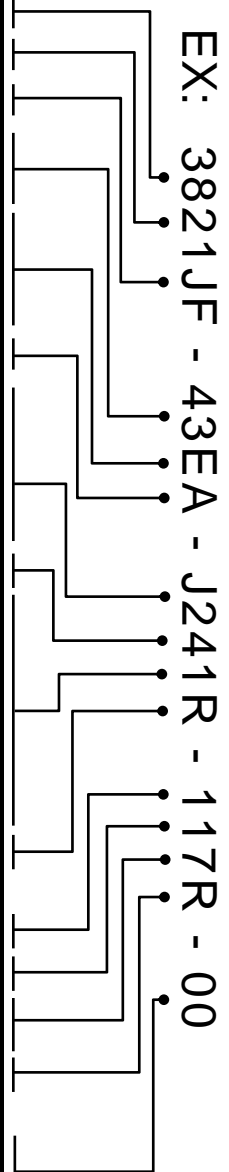
APPENDIX B – STATUS CODE DESCRIPTIONS

Name	Description	Additional Information	LED Color Code
JetFlow (JF) Backup Control Mode	The positioner is controlling the position based on actuator pressures instead of the feedback sensor.	The JetFlow feedback linkage is possibly broken, or the feedback arm needs to be rotated because the sensor is out of range.	G G B B
JetFlow (JF) Calibration Error	The relay is not moving far enough.	Check relay installation, alignment, O-rings, and feedback magnet. Check supply line and pneumatic tubing. Re-run the relay characterization.	R G O O
JetFlow (JF) Can't Open	The JetFlow relay appears to be unable to move to a pressurize state and is not responding. This could be due to a broken or out of calibration sensor, a broken piezo, stuck spool, malfunctioning relay, or a wire connection problem.	Check the relay for sticking problems. If the positioner still does not operate replace the piezo, and/or relay assembly. Check air supply and tubing connections.	R R Y R
JetFlow (JF) Can't Shut	The JetFlow relay appears to be unable to move to a depressurized state and is not responding. This could be due to a broken or out of calibration sensor, a broken piezo, stuck spool, malfunctioning relay, or a wire connection problem.	Check the relay for sticking problems. If the positioner still does not operate replace the piezo, and/or relay assembly. Check air supply and tubing connections.	R R Y R
JetFlow (JF) Inner Loop Offset Out-of-Range Warning	The Inner Loop Offset is not close to expected value.	Verify the feedback magnet is not loose. Replace the poppet relay.	R R R O
JetFlow (JF) Pressure Control Locked	The positioner is using pressure readings to keep the valve steady.	Use the Valve Stability Configuration Switch to toggle the Valve Stability from "Lo Friction" to "Hi Friction" mode. Set the "Hi Friction" window.	G G B G
JetFlow (JF) Stroke Calibration in Progress	A stroke calibration sequence is in progress.	The calibration can be canceled from the Sensor Calibration page of the DTM, from the handheld, or by briefly pressing the QUICK-CAL button.	Y R Y G

Name	Description	Additional Information	LED Color Code
Relay Type Unknown	JetFlow relay type not recognized.	Check the model code, update embedded software, verify mounting configuration is correct.	R R Y R

Table 10: Logix 3800JF Model Code

Selection	Description	Code
Base Model	Logix 3800 Series	38
Communication	HART ¹	2
Housing	Aluminum – Ex d JetFlow	1JF
Certifications	General Purpose	14
	ATEX / IECEx ,Ex db, Ex tb,FM/US/Canada Ex Proof Class I Div 1 Gp B-D (A)Ex db, Dust Ignition Proof Class II,III Gp E-G (A)Ex tb ,Type 4x, IP66	43
Threaded Connections	Mounting: 5/16" 18 UNC, Pneumatics: 1/4" NPT, Conduit: 1/2" NPT, Vents 1/4" NPT	E
	Mounting: M8 x 1.25, Pneumatics: 1/4" NPT, Conduit: M20 x 1.5, Vents 1/4" NPT	M
	Mounting: M8 x 1.25, Pneumatics: G1/4", Conduit: M20 x 1.5, Vents G1/4"	G
Actuation Medium	Air	A
Relay Type	JetFlow Relay J0, Cv 9, Tubing Size 0.75", Vent and Supply Port Size 0.75"	J0
	JetFlow Relay J1, Cv 9, Tubing Size 1.0", Vent and Supply Port Size 1.0"	J1
	JetFlow Relay J2, Cv 21, Tubing Size 1.5", Vent and Supply Port Size 1.5"	J2
	JetFlow Relay J3, Cv 50, Tubing Size 2.0", Vent and Supply Port Size 2.0"	J3
Action	Standard, Double Acting (Four-way)	4
Pressure Gauges	Standard Nickel Plated, psi (bar/kPa) Sealed and purged	1
	Standard Nickel Plated, psi (kg/cm2) Sealed and purged	2
	Stainless Steel, psi (bar/kPa) Sealed and purged	3
	Stainless Steel, psi (kg/cm2) Sealed and purged	4
	UCC Press Test Plug, 1/8" NPT	A
	Valve, Tank, Schrader 645A	B
Gauge Orientation	Gauges oriented for display on the right side of the positioner	R
Diagnostics	Pro-Diagnostics (Full Functionality)	1
Display	LCD	1
Feedback Shaft (Positioner to JetFlow)	DD - 316 Stainless Steel Shaft (Reverse Spring for long stroke)	7
Mounting	Remote Mount Option	R
Special Options	No Special Options	00
	Special Options	ZZ



EX: 3821JF - 43EA - J241R - 117R - 00

¹ HART 6 standard. Can be configured as HART 7 in the field.



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