Pressure Compensated
G6…C Series

<table>
<thead>
<tr>
<th>G6…C</th>
<th>Two-way Pressure Compensated</th>
</tr>
</thead>
<tbody>
<tr>
<td>G6…CS</td>
<td>Two-way Pressure Compensated Stainless Steel Trim</td>
</tr>
<tr>
<td>G6…LCS</td>
<td>Two-way Pressure Compensated Stainless Steel Trim Linear Characteristic</td>
</tr>
</tbody>
</table>

2½” to 6”

Service
- Chilled/hot water, 60% glycol, steam

Cv Range
- 65 – 344

Material
- Stainless steel stem, Bronze plug or Stainless plug

Control
- On/Off, Floating Point
- Multi-Function Technology®
- Electronic Fail-Safe or Non-Spring Return

FEATURES
- Balanced Plug Design
- Spring Return Solutions for up to 6” Valves
- Bronze or Stainless Trim

BENEFITS
- Perfect for high close-off requirements
- Fail-safe on larger valves
- Covers wide range of operating temperatures
- Equal percent (G6C) (G6CS) or linear characteristic (G6LCS) for steam applications
Flanged Globe Valves 2½” to 6”
Installation Instructions

Electronic
G6…C(S), G7...(S) Series

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>G6…C(S)-250</td>
<td>Two-way Flanged ANSI 250 Bronze or Stainless Trim</td>
</tr>
<tr>
<td>G7...(S)</td>
<td>Three-way Flanged Bronze or Stainless Trim</td>
</tr>
<tr>
<td>G7...(S)-250</td>
<td>Three-way Flanged ANSI 250 Bronze or Stainless Trim with Mixing or Diverting</td>
</tr>
</tbody>
</table>

Three-way Valves available in Mixing or Diverting

**2½” to 6”**

**Service**
- Chilled/hot water, 60% glycol, steam (G6C)

**Cv Range**
- 65-344 (Two-way)
- 68-340 (Three-way Mixing)
- 68-248 (Three-way Diverting)

**Material**
- Stainless steel stem, Bronze plug or Stainless plug

**Control**
- On/Off, Floating Point, 2-10 VDC
- Multi-Function Technology®
- Electronic Fail-Safe or Non-Spring Return

**FEATURES**
- Complete flanged product range
- Mixing or diverting options
- Multi-Function Technology®
- ANSI 125/ANSI 250

**BENEFITS**
- Fits wide range of applications
- Capable of any control signal
- Suitable for piping systems
Warning!
Valve should not be used for combustible gas applications. Gas leaks and explosions may result. Do not install in systems which exceed the ratings of the valve.

- Avoid installations where valve may be exposed to excessive moisture, corrosive fumes, vibration, high ambient temperatures, elements, or high traffic areas with potential for mechanical damage.
- Valve assembly location must be within ambient ratings of actuator. If the temperature is below -22°F, a heater is required.
- The valve assembly will require heat shielding, thermal isolation, or cooling at the actuator if combined effect of medium and ambient temperatures (conduction, convection, and radiation) is above 122°F for prolonged time periods.
- Strainers should be installed before coil and valve.
- Visual access must be provided. Assembly must be accessible for routine service. Contractor should provide unions for removal from line and isolation valves.
- Avoid excessive stresses. Mechanical support must be provided where reducers have been used and the piping systems may have less structural integrity than full pipe sizes.
- Vertical pipes with valves and dual actuators may require support for linkage.
- Sufficient upstream and downstream piping runs must be provided to ensure proper valve capacity and flow response. Five diameters in each direction are recommended.
- Life span of the valve stems and packing is dependent on maintaining non-damaging conditions. Poor water treatment or filtration, corrosion, scale or other particulate can result in damage to trim components. A water treatment specialist should be consulted.
  1. Inspect shipping package, valve, linkage, and actuator for physical damage. If shipping damage has occurred, notify appropriate carrier. Do not install.
  2. If this is a replacement, remove the existing valve, linkage, and actuator from the piping system.
  3. If actuator and linkage are removed, they must be reinstalled correctly. The actuator must be rotated so that the valve seats properly for close-off.
  4. Install valve with the proper ports as inlets and outlets. See piping charts on next page. Check that inlet and outlet of 2-way valves are correct; check that the "A", "B", and "AB" ports of 3-way valves are piped correctly. Flow direction arrows must be correct.
  5. Blow out all piping and thoroughly clean below valve installation.
  6. clean male pipe threads with wire brush and rag. If threads have been damaged or exposed to weather, running a tap or die over the threads may straighten them. Clean pipes, threads, and valve threads before installation. Check for any foreign material that can become lodged in trim components. Strainers should be cleaned after initial startup.
  7. Pipe sealing compound may not be applied to either flange or gasket.

8. Flanged bodies must be used with flanges which are rated for the service. 125 lb. flanges have flat faces and may not be bolted to raised face flanges. Gaskets rated for the medium and temperature-pressure must be used.
9. Valve must be installed with the stem towards the vertical, not below the horizontal.
10. Tighten bolts alternatively and evenly around the flange.
11. 2-way valve Normally Open (NO) or Normally Closed (NC) configurations must be verified by examining both the mechanical drawings and the valve and actuator.
12. 3-way valve Normally Open (NO) or Normally Closed (NC) configurations for the control port and the bypass port must be verified by examining both the mechanical drawings and the valve and actuator.

Check specifications for every application to be sure of ports and designations.

U, L, and C designations
U is for Upper, the control port. L is for Lower, the bypass port. C is for Common.

Viewed with the bonnet upwards ad the U port on the left, the L port is the bottom port, and the C is the right port. With the stem up, L is open to Common. With the stem down, U is open to Common.
### FLOW PATTERN
- Flow Pattern is Marked on Valve

### VALVE ASSEMBLY SET-UP - Specify Upon Ordering

#### 2-WAY VALVE

<table>
<thead>
<tr>
<th>MON-SPRING RETURN STAYS IN LAST POSITION</th>
<th>EV, RV Series</th>
<th>NC: Normally closed A to AB, will open upon increase in signal/power. Note: To change valve to A to AB open, reverse the directional switch in actuator.</th>
<th>NO: Normally open A to AB, will close upon increase in signal/power. Note: To change valve to A to AB closed, reverse the directional switch in actuator.</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFB, AFX Series On/Off</td>
<td>NO/FO: Normally open A to AB valve will drive closed. Spring Action: Will fail open A to AB upon power loss.</td>
<td>NO/FO: Normally closed A to AB valve will drive closed. Spring Action: Will fail open A to AB upon power loss.</td>
<td>NO/FO: Normally open A to AB valve will drive open. Spring Action: Will fail closed A to AB upon power loss.</td>
</tr>
<tr>
<td>AFB, AFX MFT Series</td>
<td>NC/FO: Normally closed A to AB, will open upon increase in signal. Note: To change valve to A to AB open, reverse CW/CCW switch. Spring Action: Will fail open A to AB upon power loss.</td>
<td>NO/FO: Normally open A to AB valve will drive closed. Spring Action: Will fail open A to AB upon power loss.</td>
<td>NO/FO: Normally closed A to AB valve will drive closed. Spring Action: Will fail open A to AB upon power loss.</td>
</tr>
<tr>
<td>AVK, GK Series</td>
<td>NC/FO: Normally closed A to AB, valve will open upon increase in signal. Note: To change valve to A to AB open, reverse CW/CCW switch. Fail Position: Will default fail A to AB open, from the factory. Fail position can be set from 0%-100%, in 10% increments.</td>
<td>NO/FO: Normally closed A to AB, valve will open upon increase in signal. Note: To change valve to A to AB open, reverse CW/CCW switch. Fail Position: Will default fail A to AB open, from the factory. Fail position can be set from 0%-100%, in 10% increments.</td>
<td>NO/FO: Normally closed A to AB, valve will open upon increase in signal. Note: To change valve to A to AB open, reverse CW/CCW switch. Fail Position: Will default fail A to AB open, from the factory. Fail position can be set from 0%-100%, in 10% increments.</td>
</tr>
</tbody>
</table>

#### 3-WAY MIXING VALVE

<table>
<thead>
<tr>
<th>MON-SPRING RETURN STAYS IN LAST POSITION</th>
<th>EV, RV Series</th>
<th>NC: Normally closed A to AB, will open upon increase in signal/power. Note: To change valve to A to AB open, reverse the directional switch in actuator.</th>
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</thead>
<tbody>
<tr>
<td>AFB, AFX Series On/Off</td>
<td>NO/FO: Normally open A to AB valve will drive closed. Spring Action: Will fail open A to AB upon power loss.</td>
<td>NO/FO: Normally closed A to AB valve will drive closed. Spring Action: Will fail open A to AB upon power loss.</td>
<td>NO/FO: Normally open A to AB valve will drive open. Spring Action: Will fail closed A to AB upon power loss.</td>
</tr>
<tr>
<td>AFB, AFX MFT Series</td>
<td>NC/FO: Normally closed A to AB, will open upon increase in signal. Note: To change valve to A to AB open, reverse CW/CCW switch. Spring Action: Will fail open A to AB upon power loss.</td>
<td>NO/FO: Normally closed A to AB valve will drive closed. Spring Action: Will fail open A to AB upon power loss.</td>
<td>NO/FO: Normally closed A to AB valve will drive closed. Spring Action: Will fail open A to AB upon power loss.</td>
</tr>
<tr>
<td>AVK, GK Series</td>
<td>NC/FO: Normally closed A to AB, valve will open upon increase in signal. Note: To change valve to A to AB open, reverse CW/CCW switch. Fail Position: Will default fail A to AB open, from the factory. Fail position can be set from 0%-100%, in 10% increments.</td>
<td>NO/FO: Normally closed A to AB, valve will open upon increase in signal. Note: To change valve to A to AB open, reverse CW/CCW switch. Fail Position: Will default fail A to AB open, from the factory. Fail position can be set from 0%-100%, in 10% increments.</td>
<td>NO/FO: Normally closed A to AB, valve will open upon increase in signal. Note: To change valve to A to AB open, reverse CW/CCW switch. Fail Position: Will default fail A to AB open, from the factory. Fail position can be set from 0%-100%, in 10% increments.</td>
</tr>
</tbody>
</table>

#### 3-WAY DIVERTING VALVE

<table>
<thead>
<tr>
<th>MON-SPRING RETURN STAYS IN LAST POSITION</th>
<th>EV, RV Series</th>
<th>NC: Normally closed A to AB, will open upon increase in signal/power. Note: To change valve to A to AB open, reverse the directional switch in actuator.</th>
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</tr>
</thead>
<tbody>
<tr>
<td>AFB, AFX Series On/Off</td>
<td>NO/FO: Normally open A to AB valve will drive closed. Spring Action: Will fail open A to AB upon power loss.</td>
<td>NO/FO: Normally closed A to AB valve will drive closed. Spring Action: Will fail open A to AB upon power loss.</td>
<td>NO/FO: Normally open A to AB valve will drive open. Spring Action: Will fail closed A to AB upon power loss.</td>
</tr>
<tr>
<td>AFB, AFX MFT Series</td>
<td>NC/FO: Normally closed A to AB, will open upon increase in signal. Note: To change valve to A to AB open, reverse CW/CCW switch. Spring Action: Will fail open A to AB upon power loss.</td>
<td>NO/FO: Normally closed A to AB valve will drive closed. Spring Action: Will fail open A to AB upon power loss.</td>
<td>NO/FO: Normally closed A to AB valve will drive closed. Spring Action: Will fail open A to AB upon power loss.</td>
</tr>
<tr>
<td>AVK, GK Series</td>
<td>NC/FO: Normally closed A to AB, valve will open upon increase in signal. Note: To change valve to A to AB open, reverse CW/CCW switch. Fail Position: Will default fail A to AB open, from the factory. Fail position can be set from 0%-100%, in 10% increments.</td>
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</tr>
</tbody>
</table>
2-WAY

2-way Valve Piping Diagram
(1 Input, 1 Output)

3-WAY MIXING

3-way Mixing Valve Piping Diagram
(2 Inputs, 1 Output)

Mixing with Coil Pump

3-WAY DIVERTING

3-way Diverting Valve Piping Diagram
(1 Input, 2 Outputs)

INSTALLATION

Valve must be installed in these orientations only.

Linear Actuators

UGLK Linkage
ANSI 125

Flange Detail for American Standard 125 lb. Cast Iron Pipe Flanges

<table>
<thead>
<tr>
<th>Nominal Pipe Size</th>
<th>FLANGES</th>
<th>DRILLING</th>
<th>BOLTING</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
<td>B</td>
<td>C</td>
</tr>
<tr>
<td>2½”</td>
<td>7”</td>
<td>9/16”</td>
<td>5½”</td>
</tr>
<tr>
<td>3”</td>
<td>7 ½”</td>
<td>¾”</td>
<td>6”</td>
</tr>
<tr>
<td>4”</td>
<td>9”</td>
<td>9/16”</td>
<td>7½”</td>
</tr>
<tr>
<td>5”</td>
<td>10”</td>
<td>9/16”</td>
<td>8½”</td>
</tr>
<tr>
<td>6”</td>
<td>11”</td>
<td>1”</td>
<td>9½”</td>
</tr>
</tbody>
</table>

ANSI 250

Flange Detail for American Standard 250 lb. Cast Iron Pipe Flanges

<table>
<thead>
<tr>
<th>Nominal Pipe Size</th>
<th>FLANGES</th>
<th>DRILLING</th>
<th>BOLTING</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
<td>B</td>
<td>C</td>
</tr>
<tr>
<td>2½”</td>
<td>7½”</td>
<td>1”</td>
<td>4 7/16”</td>
</tr>
<tr>
<td>3”</td>
<td>8¼”</td>
<td>1 ¾”</td>
<td>5 1/8”</td>
</tr>
<tr>
<td>4”</td>
<td>10”</td>
<td>1 ¾”</td>
<td>6 1/8”</td>
</tr>
<tr>
<td>5”</td>
<td>11”</td>
<td>1 ¾”</td>
<td>8 ¾”</td>
</tr>
<tr>
<td>6”</td>
<td>12 ½”</td>
<td>1 ¾”</td>
<td>9 ¾”</td>
</tr>
</tbody>
</table>
Non-Spring Return Actuator with -3

24 VAC Transformer

On/Off

Floating Point

Non-Spring Return Actuator with MFT

24 VAC Transformer

On/Off

Floating Point

Control Signal DCmA

Override Control Min, Mid, Max Positions

VDC / 4 to 20 mA

Notes:
- Meets cULus requirements without the need of an electrical ground connection.
- Actuators with appliance cables are numbered.
- Actuators may be connected in parallel. Power consumption and input impedance must be observed.
- Actuators may also be powered by 24 VDC.
- Only connect common to neg. (-) leg of control circuits.
- A 500 Ω resistor converts the 4 to 20 mA control signal to 2 to 10 VDC.
- Control signal may be pulsed from either the Hot (Source) or Common (Sink) 24 VAC line.
- Contact closures A & B also can be triacs. A & B should both be closed for the triac source and open for triac sink.
- For triac sink the Common connection from the actuator must be connected to the Hot connection of the controller. Position feedback cannot be used with a triac sink controller. The actuator internal common reference is not compatible.
- IN4004 or IN4007 diode. (IN4007 supplied, Belimo Part number 40155)
- Actuators with plenum rated cable do not have numbers on wires; use color codes instead.
WGVL/G6/G7 Linkage with AVK Series Actuators

Installation Instructions

1. Signal Direction

2. 5mm

3. 2

4. 1

5. 25 Nm

6. 2

7. 1

8. Adaption

M

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### Electronic Fail-Safe Actuator with -3

<table>
<thead>
<tr>
<th>Mode</th>
<th>Diagram</th>
</tr>
</thead>
<tbody>
<tr>
<td>On/Off</td>
<td><img src="image1" alt="On/Off Diagram" /></td>
</tr>
<tr>
<td>Floating Point</td>
<td><img src="image2" alt="Floating Point Diagram" /></td>
</tr>
</tbody>
</table>

#### 24 VAC Transformer Only

- **Line Volts**
- **BLK (1) Common**
- **RED (2) Hot**
- **WHT (3) Y Input**
- **PK (4) Y Input**

#### 100 to 240 VAC

- **Line N L1**
- **HOT H L2**
- **Volts**

### Triac Sink

- **2 to 10 VDC Feedback Signal**

### Triac Source

- **2 to 10 VDC Feedback Signal**

### Triac Sink with Separate Transformer

- **2 to 10 VDC Feedback Signal**

### Electronic Fail-Safe Actuator with MFT

<table>
<thead>
<tr>
<th>Mode</th>
<th>Diagram</th>
</tr>
</thead>
<tbody>
<tr>
<td>On/Off</td>
<td><img src="image3" alt="On/Off Diagram" /></td>
</tr>
<tr>
<td>Floating Point</td>
<td><img src="image4" alt="Floating Point Diagram" /></td>
</tr>
</tbody>
</table>

#### 24 VAC Transformer

- **Line Volts**
- **BLK (1) Common**
- **RED (2) Hot**
- **WHT (3) Y Input**
- **Org (5) U Output**

#### 24 VAC Transformer (AC Only)

- **Line Volts**
- **BLK (1) Common**
- **RED (2) Hot**
- **WHT (3) Y Input, 2 to 10V**
- **Org (5) U Output, 2 to 10V**

### Notes:

- **Meets cULus requirements without the need of an electrical ground connection**
- **Actuators with appliance cables are numbered.**
- **Actuators must be powered by 24 VAC.**
- **Control signal may be pulsed from either the Hot (Source) or Common (Sink) 24 VAC line.**
- **Contact closures A & B also can be triacs. A & B should both be closed for the triac source and open for triac sink.**
- **For triac sink the Common connection from the actuator must be connected to the Hot connection of the controller. Position feedback cannot be used with a triac sink controller. The actuator internal common reference is not compatible.**
- **IN4004 or IN4007 diode. (IN4007 supplied, Belimo Part number 40155)**
- **Actuators with plenum rated cable do not have numbers on wires; use color codes instead.**

### Override Control Min, Mid, Max Positions

- **VDC / 4 to 20 mA**

### Control Modes

- **Nominal**
- **Min**
- **Max**

* Default selectable 0-100%. See Configuration Data Sheet.

** Customizable. See Configuration Data Sheet.
G6/G7 Globe Valves with Dual Mount GK-X1 Actuators

Installation Instructions

1. [Image of valve frame attachment]

2. [Image of actuator mounting]

3. [Image of actuator angle adjustment]

4. [Image of actuator adjustment range]
**Electronic Fail-Safe Actuator with -3 and -SR**

**On/Off**
- Line N L1
- Hot H L2

**Floating Point**
- Line N L1
- Hot H L2

**Triac Sink**
- 24 VAC Transformer
- Line Volts
- Blk (1) Common
- Red (2) + Hot
- Wht (3) + Y Input
- Pnk (4) - Y Input

**Triac Source**
- Line Volts
- Hot
- Common
- Red (2) + Hot
- Wht (3) + Input
- Pnk (4) - Y Input

**Triac Sink with Separate Transformer**
- Line Volts
- Blk (1) Common
- Red (2) + Hot
- Wht (3) + Y Input
- Pnk (4) - Y Input
- Org (5) U Output 2 to 10V

**Electronic Fail-Safe Actuator with MFT**

**On/Off**
- Line Volts
- Blk (1) Common
- Red (2) + Hot
- Wht (3) + Y Input

**Floating Point**
- Line Volts
- Blk (1) Common
- Red (2) + Hot
- Wht (3) + Y Input

**Override Control Min, Mid, Max Positions**

**Notes:**
- Meets cULus requirements without the need of an electrical ground connection
- Actuators with appliance cables are numbered.
- Actuators may be connected in parallel. Power consumption and input impedance must be observed.
- Actuators may also be powered by 24 VDC.
- Only connect common to reg. (-) leg of control circuits.
- A 500 Ω resistor converts the 4 to 20 mA control signal to 2 to 10 VDC.
- Control signal may be pulsed from either the Hot (Source) or Common (Sink) 24 VAC line.
- Contact closures A & B also can be triacs. A & B should both be closed for the triac source and open for triac sink.
- For triac sink the Common connection from the actuator must be connected to the Hot connection of the controller. Position feedback cannot be used with a triac sink controller. The actuator internal common reference is not compatible.
- In4004 or In4007 diode. (In4007 supplied, Belimo Part number 40155)
- Actuators with plenum rated cable do not have numbers on wires; use color codes instead.
# G6/G7 Globe Valves with Dual Mount GK-X1 Actuators

## Wiring Diagrams

### Power-Off Position

<table>
<thead>
<tr>
<th>FC</th>
<th>FO</th>
</tr>
</thead>
<tbody>
<tr>
<td>A – AB = 0%</td>
<td>A – AB = 100%</td>
</tr>
</tbody>
</table>

**On/Off**

### 24V AC/DC

### Floating Point

<table>
<thead>
<tr>
<th>FC</th>
<th>FO</th>
</tr>
</thead>
<tbody>
<tr>
<td>A – AB = 0%</td>
<td>A – AB = 100%</td>
</tr>
</tbody>
</table>

24V AC/DC

---

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G6/G7 Globe Valves with Single Mount AFX Actuators

Installation Instructions
**G6/G7 Globe Valves with Single Mount AFX Actuators**

**Wiring Diagrams**

**Spring Return Actuator with On/Off, Floating Point and -SR**

- **On/Off**
  - 24 VAC Transformer
  - Line Volts
  - Blk (1) Common
  - Wht N
  - Red (2) + Hot
  - Wht (1) Neutral
  - Wht (1) Neutral
  - Blk (2) Hot
  - **Function**
  - **Max** 100%

- **24 VAC up to 240 VAC**
  - 120 VAC 230 VAC
  - Line Volts
  - Blk H
  - Wht N
  - **Function**
  - **Max** 100%

**Spring Return Actuator with MFT**

- **On/Off**
  - 24 VAC Transformer
  - Line Volts
  - Blk (1) Common
  - Wht N
  - Red (2) + Hot
  - Wht (1) Neutral
  - Blk (2) Hot
  - **Function**
  - **Max** 100%

**Triac Sink**

- 24 VAC Transformer
- Line Volts
- Blk (1) Common
- Wht N
- Red (2) + Hot
- **Feedback Signal**: 2 to 10 VDC
- **Function**
- **Max** 100%

**Triac Source**

- 24 VAC Transformer
- Line Volts
- Blk (1) Common
- Wht N
- Red (2) + Hot
- **Feedback Signal**: 2 to 10 VDC
- **Function**
- **Max** 100%

**Triac Sink with Separate Transformer**

- 24 VAC Transformer
- Line Volts
- Blk (1) Common
- Wht N
- Red (2) + Hot
- **Feedback Signal**: 2 to 10 VDC
- **Function**
- **Max** 100%

**PWM**

- 24 VAC Transformer (AC Only)
- Line Volts
- Blk (1) Common
- Wht N
- Red (2) + Hot
- **Feedback Signal**: 2 to 10 VDC
- **Function**
- **Max** 100%

**Notes:**

- Meets cULus requirements without the need of an electrical ground connection.
- Actuators with appliance cables are numbered.
- Actuators may be connected in parallel. Power consumption and input impedance must be observed.
- Actuators may also be powered by 24VDC.
- Only connect common to neg. (-) leg of control circuit.
- A 500 ohm resistor converts the 4 to 20 mA control signal to 2 to 10 VDC.
- Control signal may be pulsed from either the Hot (Source) or Common (Sink) 24 VAC line.
- Contact closures A & B also can be triacs. A & B should both be closed for the triac source and open for triac sink.
- For triac sink the Common connection from the actuator must be connected to the Hot connection of the controller.
- Position feedback cannot be used with a triac sink controller. The actuator internal common reference is not compatible.
- Actuators may be connected in parallel if not mechanically mounted to the same shaft. Power consumption and input impedance must be observed.
- Actuators with preamplified cable do not have numbers on wires, use color codes instead.
- All 120 VAC, 230 VAC, and UP actuators use appliance rated cables.
- UP models use “L” instead of “H” on #2 wire.

**VDC / 4 to 20 mA**

- **Override Control Min, Mid, Max Positions**
  - 24 VAC Transformer (AC Only)
  - Line Volts
  - Blk (1) Common
  - Wht N
  - Red (2) + Hot
  - **Feedback Signal**: 2 to 10 VDC
  - **Function**
  - **Max** 100%

**Auxiliary Switches**

- S1 NC 10°
- S2 NC 10° to 90°
- S3 NC
- S4 NC
- S5 NC
- S6 NC

**Controller Compatibility:**

- **Feedback**
  - (+) 2 to 10 VDC
  - (-) 0 to 5 VDC

**Actuator Wire Numbers:**

- **Function**
  - **Max** 100%

**Position Feedback VDC:**

- **Max** 100%

**Control Signal:**

- 2 to 10 VDC
- 0 to 5 VDC

**Notes:**

- **Default selectable 0-100%**. See Configuration Data Sheet.
- **Customizable. See Configuration Data Sheet**.

---

**Diagram Elements:**

- **Controller**
- **Blk** (1) Common
- **Wht** N
- **Red** (2) + Hot
- **Wht** (1) Neutral
- **Blk** (2) Hot
- **Feedback Signal**: 2 to 10 VDC
- **Function**
- **Max** 100%

---

**Configuration Data Sheet:**

- **AF24-MFT US**
- **Wht** Org
G6/G7 Globe Valves with Single Mount AFX Actuators

Wiring Diagrams

MFT95

Override

Wiring multiple actuators to a Series 90 Controller

Low Limit Control

Wiring Multiple Actuators to a Series 90 Controller using Minimum Position Potentiometer

High Limit Control

Typical Wiring Diagrams for Multiple Actuators used with the W973, W7100 and T775 controllers

Notes:

- Actuators with plenum rated cable do not have numbers on wires; use color codes instead.
- Provide overload protection and disconnect as required.
- Actuators and controller must have separate transformers.
- Consult controller instruction data for more detailed information.
- Resistor value depend on the type of controller and the number of actuators. No resistor required for one actuator. Honeywell® resistor kits may be used.
- To reverse control rotation, use the reversing switch.
**Spring Return Actuator with On/Off, Floating Point and -SR**

*24 VAC Transformer*

**On/Off**

*24 VAC up to 240 VAC*

**Spring Return Actuator with MFT**

*24 VAC Transformer with MFT*

**Triac Sink**

*24 VAC Transformer*

**Triac Source**

*24 VAC Transformer*

**Triac Sink with Separate Transformer**

*24 VAC Transformer*

**Flying Point**

*24 VAC Transformer (AC Only)*

**PWM**

*24 VAC Transformer (AC Only)*

**Notes:**

- Meets cULus requirements without the need of an electrical ground connection.
- Actuators with appliance cables are numbered.
- Actuators may be connected in parallel. Power consumption and input impedance must be observed.
- Actuators may also be powered by 24 VDC.
- Only connect common to neg. (-) leg of control circuits.
- A 500 Ω resistor converts the 4 to 20 mA signal control to 2 to 10 VDC.
- Contact signal may be pulsed from either the Hot (Source) or Common (Sink) 24 VAC line.
- Contact closures A & B also can be triacs. A & B should both be closed for the triac source and open for triac sink.
- For triac sink the Common connection from the actuator must be connected to the Hot connection of the controller.
- Position feedback cannot be used with a triac sink controller the actuator internal common reference is not compatible.
- Actuators with plenum rated cable do not have numbers on wires; use color codes instead.
- All 120 VAC, 230 VAC, and UP actuators use appliance rated cables.
- UP models use "L" instead of "N" on #2 wire.

**VDC / 4 to 20 mA**

**Override Control Min, Mid, Max Positions**

*24 VAC Transformer*

**Auxiliary Switches**

*VDC / 4 to 20 mA (Master/Slave)*

**Wiring Diagrams**

**G6/G7 Globe Valves with Dual Mount AFX Actuators**

**Function**

- 100%:
- 50%:
- 0%:

**Feedback Signal**

(+): 2 to 10 VDC (–)

**Max**

- 100%:
- 50%:
- 0%:

**Normal**

- Customizable: See Configuration Data Sheet.

**Position Feedback Voltage**

- (+) Position
- (-) Position

**Control Signal**

- (+)VDC/mA
- (-)VDC/mA

**Actuator**

- Wire Number
- Color

**AF24-MFT US**

S: Org

**AF24-SR US**

S: Org