

FlowCon FN Actuators

FlowCon Electrical Actuators



SPECIFICATIONS

FlowCon FN.0.2

Supply voltage:	24V AC/DC $\pm 10\%$, 50/60 Hz
Type:	Electrical, bi-directional synchronous motor
Power consumption:	24V AC: 2.5VA operating (4.7VA max.) 24V DC: 1.2W operating (2.2W max.)
Inrush current:	10A (peak)
Control signal:	Analog 0(2)-10V DC, <0.5mA
Resolution:	1:100 (0-10V) and 1:80 (2-10V)
Feedback:	Yes, control signal
Failsafe function:	No
Electrical override:	Yes
Position indicator:	Yes
Operation time:	22 sec/mm
Actuating force:	High (250N -30N/+70N)
Stroke:	5.8 mm / 0.23 in (compensated)
Ambient temperature ¹ :	0°C to +50°C / +32°F to +122°F
Media temperature:	0°C to +120°C / +32°F to +248°F
Humidity rating:	0..85% rH, no condensation
Protection:	IP54 incl. upside-down, class III, indoor use only
CE conformity:	EN 60730
Cable:	Fixed, 5 wires x 0.50 mm ² , 1.5 meter Fixed, 5 wires x AWG20, 4.9 ft
Closing point adjustment:	During operation the actuator will self-adjust according to the closing point and stroke length of the valve.

Note 1: Including +5°C self-generated heat based on UL requirements.

SPECIFICATIONS (...continued)

FlowCon FN.0.3

Supply voltage:	110/230V AC $\pm 10\%$, 50/60 Hz
Type:	Electrical, bi-directional synchronous motor
Power consumption:	5VA
Control signal:	Digital (2-position / 3-point-floating)
Feedback:	No
Failsafe function:	No
Operation time:	50 Hz: 18.5 sec/mm
Actuating force:	High (230N -10N/+40N)
Ambient temperature:	+2°C to +50°C / +36°F to +122°F
Humidity rating:	<95% rH, no condensation
Protection:	IP54, class II
Cable:	Fixed, 3 wires x 0.30 mm ² halogen free, 1 m Fixed, 3 wires x AWG22 halogen free, 3 ft
Closing point adjustment:	During operation the actuator will self-adjust according to the closing point of the valve.

FlowCon FN.0.4

Supply voltage:	24V AC/DC $\pm 10\%$, 50/60 Hz
Type:	Electrical, bi-directional synchronous motor
Power consumption:	24V AC: 2.5VA operating (4.7VA max.) 24V DC: 1.2W operating (2.2W max.)
Inrush current:	10A (peak)
Control signal:	Digital 3-point floating and ON/OFF
Feedback:	No
Failsafe function:	No
Electrical override:	Yes
Position indicator:	Yes
Operation time:	22 sec/mm
Actuating force:	High (250N -30N/+70N)
Stroke:	5.8 mm / 0.23 in (compensated)
Ambient temperature ² :	0°C to +50°C / +32°F to +122°F
Media temperature:	0°C to +120°C / +32°F to +248°F
Humidity rating:	0..85% rH, no condensation
Protection:	IP54 incl. upside-down, class III, indoor use only
CE conformity:	EN 60730
Cable:	Fixed, 3 wires x 0.50 mm ² , 1.5 meter Fixed, 3 wires x AWG20, 4.9 ft
Closing point adjustment:	During operation the actuator will self-adjust according to the closing point and stroke length of the valve.

Note 2: Including +5°C self-generated heat based on UL requirements.

SPECIFICATIONS (...continued)

FlowCon FN.1.2

Supply voltage:	24V AC/DC $\pm 10\%$, 50/60 Hz
Type:	Electrical, bi-directional synchronous motor
Power consumption:	24V AC: 5.8VA operating (6.8VA max.) 24V DC: 2.9W operating (3.3W max.)
Inrush current:	12A (peak)
Control signal:	Analog 0(2)-10V DC or digital 2-position with constant power supply
Feedback:	Yes, control signal (analog) or 0-10V DC (digital)
Failsafe function:	Yes, optional open or close
Electrical override:	Yes
Position indicator:	Yes
Operation time:	22 sec/mm (failsafe mode: 5 sec/mm)
Actuating force:	High (250N -30N/+70N)
Stroke:	5.8 mm / 0.23 in (compensated)
Ambient temperature ³ :	0°C to +50°C / +32°F to +122°F
Media temperature:	0°C to +120°C / +32°F to +248°F
Humidity rating:	0..85% rH, no condensation
Protection:	IP54 incl. upside-down, class III, indoor use only
CE conformity:	EN 60730
Cable:	Fixed, 5 wires x 0.50 mm ² , 1.5 meter Fixed, 5 wires x AWG20, 4.9 ft
Closing point adjustment:	During operation the actuator will self-adjust according to the closing point and stroke length of the valve.

FlowCon FN.1.4

Supply voltage:	24V AC/DC $\pm 10\%$, 50/60 Hz
Type:	Electrical, bi-directional synchronous motor
Power consumption:	6VA, 10VA peaks
Control signal:	Digital (2-position / 3-point-floating)
Feedback:	No
Failsafe function:	Yes, optional open or close
Operation time:	50 Hz: 18.5 sec/mm
Actuating force:	High (230N -10N/+40N)
Ambient temperature:	+2°C to +50°C / +36°F to +122°F
Humidity rating:	<95% rH, no condensation
Protection:	IP54, class II
Cable:	Fixed, 4 wires x 0.30 mm ² halogen free, 1 m Fixed, 4 wires x AWG22 halogen free, 3 ft
Closing point adjustment:	During operation the actuator will self-adjust according to the closing point of the valve.

FlowCon FN.5.2

Supply voltage:	24V AC/DC $\pm 10\%$, 50/60 Hz
Type:	Electrical, bi-directional synchronous motor
Power consumption:	5VA
Control signal:	Analog 0(2)-10V DC
Feedback:	Yes, 0(2)-10V DC
Failsafe function:	No
Autostroke:	Optional
Operation time:	50 Hz: 18.5 sec/mm
Actuating force:	Low (120N -10N/+10N)
Ambient temperature:	+2°C to +50°C / +36°F to +122°F
Humidity rating:	<95% rH, no condensation
Protection:	IP54, class II
Cable:	Fixed, 4 wires x 0.30 mm ² halogen free, 1 m Fixed, 4 wires x AWG22 halogen free, 3 ft
Closing point adjustment:	During operation the actuator will self-adjust according to the closing point of the valve.

Note 3: Including +5°C self-generated heat based on UL requirements.

SPECIFICATIONS (...continued)

FlowCon FN.5.4

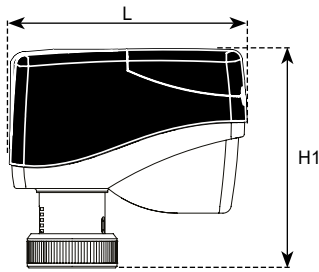
Supply voltage:	24V AC/DC $\pm 10\%$, 50/60 Hz
Type:	Electrical, bi-directional synchronous motor
Power consumption:	5VA
Control signal:	Digital (2-position / 3-point-floating)
Feedback:	No
Failsafe function:	No
Operation time:	50 Hz: 18.5 sec/mm
Actuating force:	Low (120N -10N/+10N)
Ambient temperature:	+2°C to +50°C / +36°F to +122°F
Humidity rating:	<95% rH, no condensation
Protection:	IP54, class II
Cable:	Fixed, 3 wires x 0.30 mm ² halogen free, 1 m Fixed, 3 wires x AWG22 halogen free, 3 ft
Closing point adjustment:	During operation the actuator will self-adjust according to the closing point of the valve.

FlowCon FN.6.2

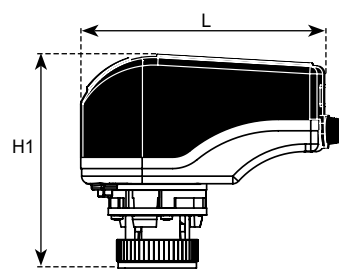
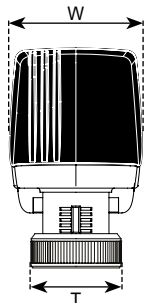
Supply voltage:	24V AC/DC $\pm 10\%$, 50/60 Hz
Type:	Electrical, bi-directional synchronous motor
Power consumption:	6VA, 10VA peaks
Control signal:	Analog 0(2)-10V DC
Feedback:	Yes, 0(2)-10V DC
Failsafe function:	Yes, optional open or close
Autostroke:	Optional
Operation time:	50 Hz: 19 sec/mm
Actuating force:	Low (120N -10N/+10N)
Ambient temperature:	+2°C to +50°C / +36°F to +122°F
Humidity rating:	<95% rH, no condensation
Protection:	IP54, class II
Cable:	Fixed, 4 wires x 0.30 mm ² halogen free, 1 m Fixed, 4 wires x AWG22 halogen free, 3 ft
Closing point adjustment:	During operation the actuator will self-adjust according to the closing point of the valve.

DIMENSIONS AND WEIGHT (NOMINAL)

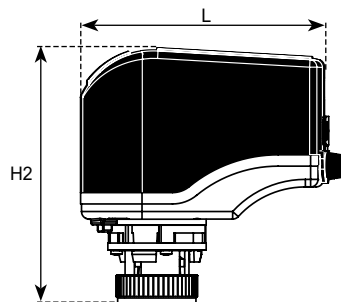
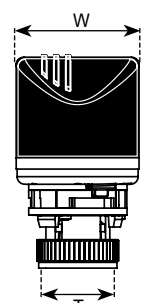
Actuator	L mm (in)	W mm (in)	H1 mm (in)	H2 mm (in)	T	Weight kg (lb)
FN.0.2	86.5 (3.41)	48.5 (1.91)	80 (3.15)	-	M30x1.5	0.25 (0.55)
FN.0.4						
FN.1.2						
FN.0.3	104 (4.09)	51 (2.01)	92 (3.62)	-	M30x1.5	0.25 (0.55)
FN.1.4			-	107 (4.21)		0.30 (0.66)
FN.5.X			92 (3.62)	-		0.25 (0.55)
FN.6.2			-	107 (4.21)		0.30 (0.66)



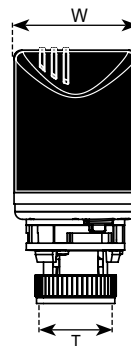
FlowCon FN.0.2, FN.0.4 and FN.1.2



FlowCon FN.0.3 and FN.5.X



FlowCon FN.1.4 and FN.6.2



MODEL NUMBER SELECTION

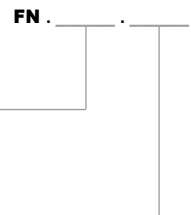
Insert actuating force and failsafe function:

- 0**=High (no failsafe)
- 1**=High and failsafe
- 5**=Low (no failsafe)
- 6**=Low and failsafe

Insert control mode:

- 2**=24V modulating
- 3**=110/230V digital (only available in high actuating force version and without failsafe - **first digit=0**)
- 4**=24V digital (**first digit=0, 1 or 5**)

Example: FN.0.2=FlowCon FN actuator 24V modulating, high actuating force without failsafe function.



VALVE FUNCTION

The valve functions are adjusted with the DIP switches under the connection cover.

FlowCon FN.0.2

Switch #1: Auto cycle ON/OFF

If the plant specifications permit it, the auto cycle can be activated during commissioning. Auto cycle prevents the valve from jamming when the valve is not moved for a longer period of inactivity, e.g. for heating systems during the summer.

When the auto cycle is activated, the actuator will perform 50% stroke cycle if no stroke movement has occurred during a 3-week period.

Factory setting = OFF.

Switch #2: Analog 2-10V DC / 0-10V DC

Setting control range by the continuous actuating signal 0-10V DC or 2-10V DC.

Factory setting = 0-10V DC.

Switch #3: Normally open / Normally closed

Setting actuating direction with 10V DC control signal to “valve open” or “valve closed” as well as the position feedback.

Factory setting = Normally closed; 0V DC = valve closed.

Switch #4: Equal % control / Linear control

Setting of actuating control curve either equal percentage or linear control.

Factory setting = Linear control.

Switch #5: No function.

Switch #6: Electrical override

Setting override function to ON and the actuator will open valve fully. When set to OFF again, the actuator will re-calibrate and thereafter go into normal operation mode.

Factory setting = OFF.



FlowCon FN.0.4

Switch #1: No function.

Switch #2: No function.

Switch #3: Normally open / Normally closed

Setting actuating direction to “valve open” or “valve closed”.

Factory setting = Normally closed; 0V DC = valve closed.

Switch #4: No function.

Switch #5: No function.

Switch #6: Electrical override

Setting override function to ON and the actuator will open valve fully. When set to OFF again, the actuator will re-calibrate and thereafter go into normal operation mode.

Factory setting = OFF.



VALVE FUNCTION (...continued)

FlowCon FN.1.2

Switch #1: Auto cycle ON/OFF

If the plant specifications permit it, the auto cycle can be activated during commissioning. Auto cycle prevents the valve from jamming when the valve is not moved for a longer period of inactivity, e.g. for heating systems during the summer.

When the auto cycle is activated, the actuator will perform 50% stroke cycle if no stroke movement has occurred during a 3-week period.

Factory setting = OFF.

Switch #2: Analog 2-10V DC / 0-10V DC

Setting control range by the continuous actuating signal 0-10V DC or 2-10V DC.

Factory setting = 0-10V DC.

Switch #3: Normally open / Normally closed

Setting actuating direction with 10V DC control signal to “valve open” or “valve closed” as well as the position feedback.

Factory setting = Normally closed; 0V DC = valve closed.

Switch #4: Equal % control / Linear control

Setting of actuating control curve either equal percentage or linear control.

Factory setting = Linear control.

Switch #5: Failsafe Open/Close

Setting actuator direction at power failure to “valve open” or “valve closed”.

Factory setting = close.

Switch #6: Electrical override

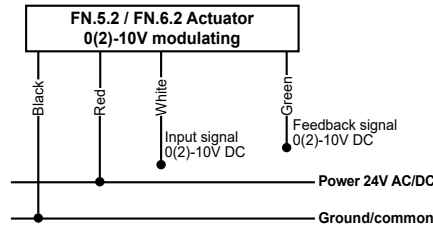
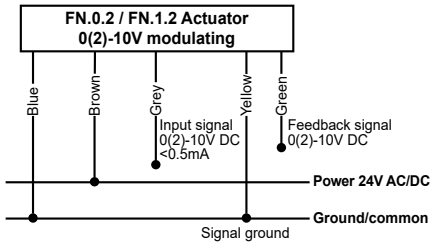
Setting override function to ON and the actuator will open valve fully. When set to OFF again, the actuator will re-calibrate and thereafter go into normal operation mode.

Factory setting = OFF.

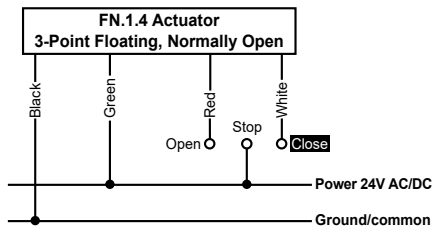
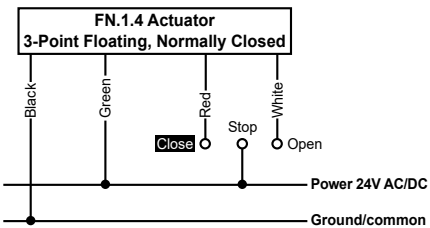
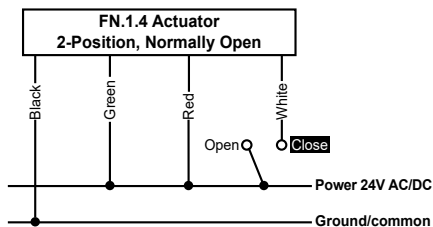
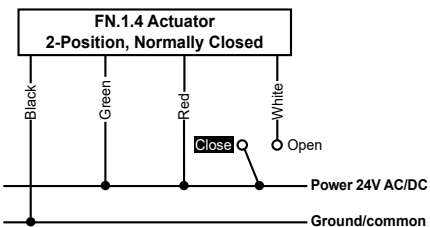
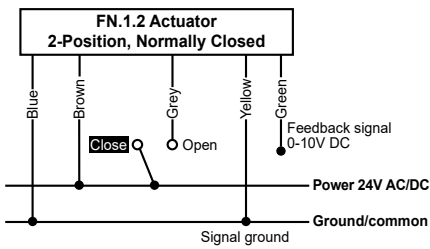
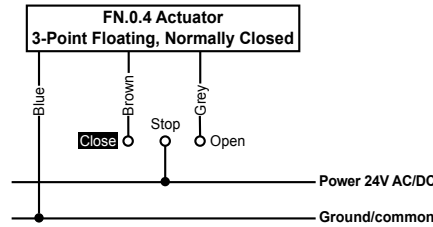
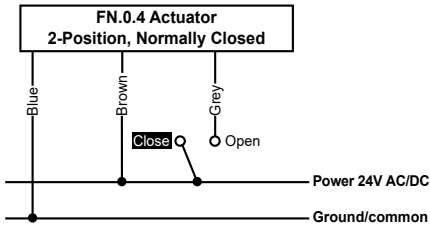
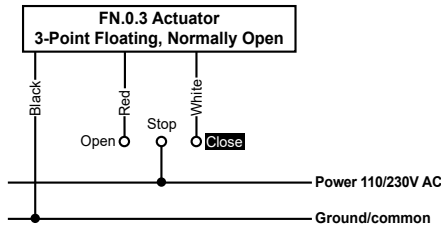
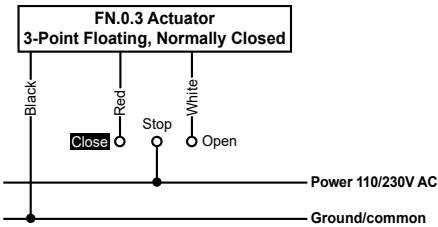
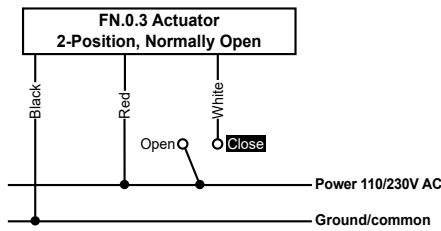
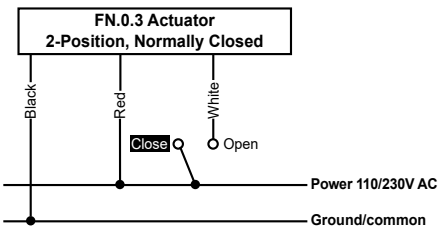


WIRING INSTRUCTION

FlowCon FN (analog)

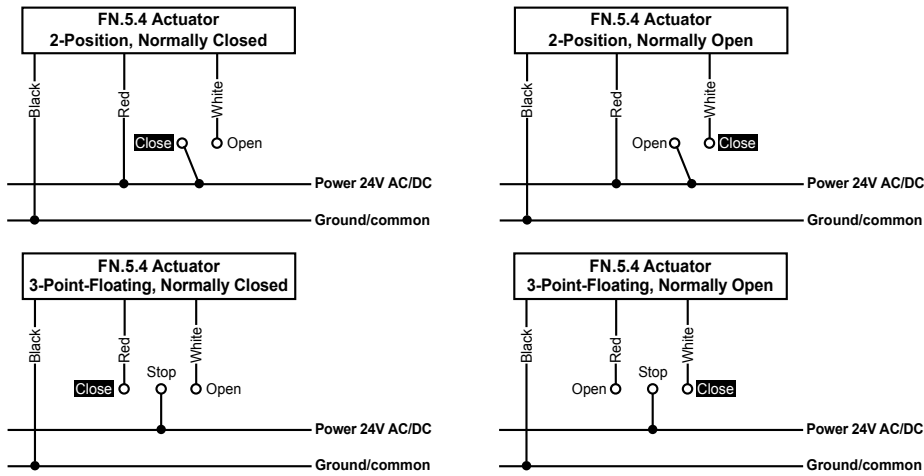


FlowCon FN (digital)



WIRING INSTRUCTION (...continued)

FlowCon FN (digital)



UPDATES

For latest updates please see www.flowcon.com

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