

# FlowCon FH Actuators

## FlowCon Electrical Actuators



### SPECIFICATIONS

#### **FlowCon FH**

Supply voltage:	24V AC/DC $\pm 10\%$ , 50/60 Hz
Type:	Electrical, Bi-directional synchronous motor
Power consumption:	24V AC: 6VA operating (8.5VA max.) 24V DC: 2.6W operating (4.1W max.)
Inrush current:	10A (peak)
Control signal:	Analog 0(2)-10V DC, <0.5mA or digital 3-point floating and ON/OFF
Resolution:	1:100 (0-10V analog) and 1:80 (2-10V analog)
Feedback:	Yes, control signal (analog) or 0-10V DC (digital ON/OFF)
Failsafe function:	No
Manual override:	Yes
Position indicator:	Yes
Operation time:	22 sec/mm
Actuating force:	600N -50N/+100N
Stroke:	7 mm / 0.276 in
Ambient temperature <sup>1</sup> :	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, class III (IP40 upside-down), indoor use only
CE conformity:	EN 60730
Cable:	Fixed, 5 wires x 0.50 mm <sup>2</sup> , 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)

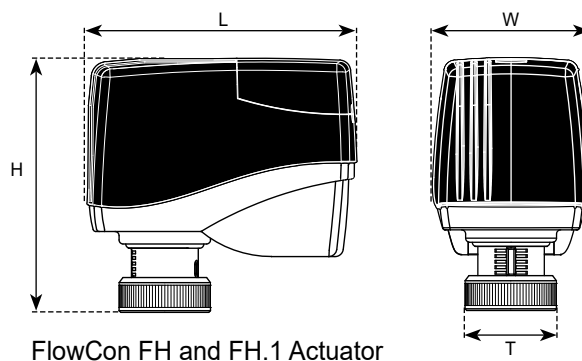
### FlowCon FH.1

Supply voltage:	24V AC/DC $\pm 10\%$ , 50/60 Hz
Type:	Electrical, Bi-directional synchronous motor
Power consumption:	24V AC: 7.9VA operating (9VA max.) 24V DC: 3.7W operating (4.5W max.)
Inrush current:	12A (peak)
Control signal:	Analog 0(2)-10V DC or digital 2-position with constant power supply
Resolution:	1:100 (0-10V analog) and 1:80 (2-10V analog)
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:	600N -50N/+100N
Stroke:	7 mm / 0.276 in
Ambient temperature <sup>2</sup> :	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, class III (IP40 upside-down), indoor use only
CE conformity:	EN 60730
Cable:	Fixed, 5 wires x 0.50 mm <sup>2</sup> , 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 2: Including +5°C self-generated heat based on UL requirements.

## DIMENSIONS AND WEIGHTS (NOMINAL)

Actuator	L mm (in)	W mm (in)	H mm (in)	T	Weight kg (lb)
FH	96.0 (3.78)	56 (2.20)	91 (3.58)	M30x1.5	0.30 (0.67)
FH.1	96.0 (3.78)	56 (2.20)	91 (3.58)	M30x1.5	0.34 (0.75)



## MODEL NUMBER SELECTION

The model number of FlowCon FH actuator is just **FH** \_\_\_\_\_

**Empty**=no failsafe  
**1**=failsafe

Example: FH.1=FlowCon FH actuator 24V modulating with failsafe function.

**FH** \_\_\_\_\_

## VALVE FUNCTION

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

### **FlowCon FH**

#### **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-weeks 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 close**

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**

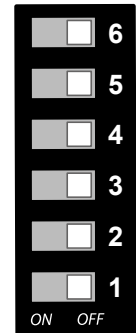
Setting of actuating control curve to either equal percentage or linear control.

Factory setting = Linear control.

#### **Switch #5: has no function.**

#### **Switch #6: Re-calibration**

Setting is indifferent, but flipping the switch will start re-calibration. After re-calibration the actuator will automatically go into normal operation.



### **FlowCon FH.1**

#### **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-weeks 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 close**

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 to 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**

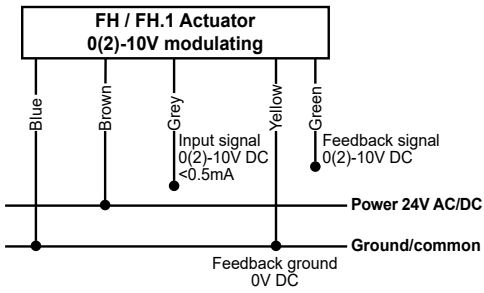
Setting override function to ON and the actuator will open valve fully. When set to OFF again, the actuator will re-calibrate and thereafter go into normal operation mode.

Factory setting = OFF

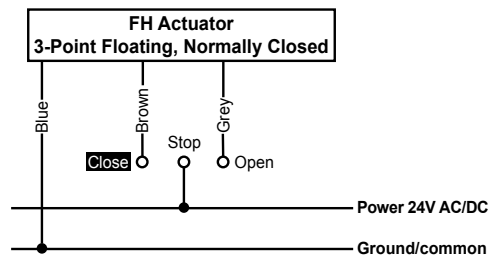
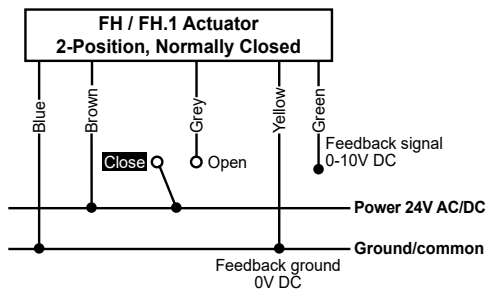


## WIRING INSTRUCTION

### FlowCon FH (analog)



### FlowCon FH (digital)



## UPDATES

For latest updates please see [www.flowcon.com](http://www.flowcon.com)

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