

Bettis RTS FL Fail-Safe Linear Actuator

Reliable and Compact

FAIL-SAFE LINEAR ACTUATOR

- Reliably drive valve in fail-safe position with a mechanical spring return design
 - Control: integrated controls with frequency inverter and brushless DC motor
 - Direct coupling of the linear fails-safe actuator with the valve shaft
 - Fail-safe triggering selectable in case of drop-off 24 V DC fail-safe signal or main power supply
 - Adjustable fail-safe operating time and ramp speed
 - Modulating operation up to 1200 starts/hour possible (S9 Operation)
 - Configurable torque and speed
 - Exclusive spring based mechanical energy storage - no hydraulics or battery required
 - No need of periodical inspections – self-testing with every stroke
 - Partial stroke test
 - Low maintenance
 - Integrated SMARTCON controls with wireless Bluetooth capability for configuration, monitoring, and diagnostics of key parameters
 - Data Logger for diagnostics
 - SMARTCON Android application
- Adjustable positioning speed (Electric):
0.21 mm / sec - 5.8 mm / sec
 - Adjustable fail-safe operating time: 1–10 sec
 - Non-intrusive limit setting
 - Available for power supply:
 - 24 VDC
 - 1x115V – 230VAC , 50/60 Hz
 - 3x 380 – 480 VAC, 50/60 Hz
 - Housing Material: Aluminum
 - Standard NEMA 4 enclosure
 - Certification: ATEX, CSA, UL, IECEx



Technical Details

- Switch off thrust electric: max. 25 kN (5,620 lbs.)
- Modulating thrust: max. 12 kN (2,697 lbs.)
- Mechanical spring remaining fail-safe force: max. 12 kN (2697 lbs.)

Optional Features

- Analog position feedback 20mA (2-wire)
- Relay board for 250 VAC, 2A with 4 or 6 outputs
- Networking (Modbus RTU, HART)
- Mechanical manual override

TYPE		FL-05	FL-15	FL-25
Max Force	kN (max. lbs.)	5 (1124)	15 (3372)	25 (5620)
Max Modulating Force	kN (max. lbs.)	3 (674)	8 (1798)	12 (2697)
Remaining Fails-safe Force	kN (max. lbs.)	5 (1124)	8 (1798)	12 (2697)
Fail-safe Function		Selectable opening and closing (stem extending/retracting)		
Fail-safe Trigger		Loss of 24 V DC Fail-safe signal or main power supply (selectable)		
Adjustable Operating Time (Electric)	mm/sec	0.21 - 5.8 mm/s		
Adjustable Operating Time (Fail-safe)	sec	1 - 3	1 - 5	2 - 10
Max Travel	mm (inch)	30 (1.18)	50.8 (2.0)	101.6 (4.0)
Mode of Operation	On/off Duty	S2-15 min		
	Modulating Duty	S4 – 1200 starts/hr – 40% ED		
Manual Override		Optional		
VALVE-MOUNTING				
Flange	ISO 5210/ DIN 3358	F07/ F10	F10/ F12	F10/ F14
Stem		M 16x1.5	M 16x1.5	M 16x1.5
ENVIRONMENTAL CONDITIONS				
Weather Protection		IP66, IP67		
Ambient Temperature		- 40° C (-40°F) to +60°C (140°F)		
Corrosion Protection		K2 for aggressive atmospheres		
Painting/Color		Two component painting / RAL 7024		
Weight approx.	lb. (kg)	85 (39)	105 (48)	187 (85)
MOTOR - BRUSHLESS TECHNOLOGY				
Isolation Class		Insulation class F, max. 155° C (311°F) permanent temperature		
Power Supply	V	24 VDC, 1x 115-230 VAC, 50-60Hz, 3x 380-480 VAc, 50-60 Hz		
	Nominal Current	2.5 A		
Power Consumption Idle with Fail-Safe Brake		36 W	40 W	40 W
ACTUATOR CONTROL				
Technology	Integrated processor control unit with frequency technology for variable speed control			
Control Elements	<ul style="list-style-type: none"> · With additional language independent symbols · Selector switch LOCAL - OFF- REMOTE (lockable) · Control switch OPEN - STOP - CLOSE contact less sensor technology 			
Local Display	Backlit LCD display, can be rotated in 90 degree steps			
LEDs	4 programmable red, green, blue LEDs for operation - readiness - warning - and error messages			
Communication	Infrared communication interface and bluetooth technology including ANDROID APP for simple configuration			
Inputs	<ul style="list-style-type: none"> · 5 configurable binary (discrete inputs) control inputs: OPEN - STOP - CLOSE - EMERGENCY OPEN - EMERGENCY CLOSE · Nominal voltage 24VDC 			
Outputs	<ul style="list-style-type: none"> · 8 configurable binary (relay) outputs: READY - OPEN - CLOSE - RUNNING OPEN - RUNNING CLOSE - TORQUE - LOCAL - REMOTE · Power supply 24 VDC +/- 6V (selectable internal or external) 			
FUNCTIONS				
Standard	<ul style="list-style-type: none"> · Switch-off mode adjustable, travel or torque dependent · Torque adjustable: 25-100% of max. torque · Adjustable speed for process optimization and emergency speeds · Password protection (reading and/or writing) · Multi-language display · Status indication for binary inputs/outputs and analog signals on LCD Display · Data logging for analysis and service · Motor protection by Positive Temperature Coefficient sensors 			
ELECTRICAL CONNECTION				
Cable Entry	3 metric threaded boreholes for cable glands: M40x1.5 / M32x1.5 / M25x1.5 (Optional: 2x NPT1/2" + 1xNPT1")			