

Bettis™ RTS CM+QT Series

Smart Compact Quarter-Turn Actuator

Main Features

- Compact Quarter-Turn Series is CM design suitable for actuation of quarter-turn valves
- Light weight and delivers torque in a small envelope
- Non-intrusive setup
- On/Off and continuous modulating duty-S9
- Adjustable speed (2 sec – 54 sec)
- Independently adjustable soft starts / stops
- Torque measurement for protection and diagnostics
- Fail in last design for fail-safe reference
FQ product data sheet
- Reliable and highly accurate positioning control
- DC, single phase, three phase power supply options
- Clutchless design handwheel
- Local User Interface with wireless bluetooth control capability for configuration, monitoring, and diagnostics of key parameters
- Data Logger for diagnostics
- User Application available for Android Devices
- Process Control via optional onboard PID Controller
- Multilingual user interface



TYPE		CM-32 / QT12	CM-32 / QT25
Adjustable Max Torque	max.lbs.ft (Nm)	92 (125)	187 (250)
Min Switch Off Torque	max.lbs.ft (Nm)	5.9 (33)	47 (63)
Modulating Torque	max.lbs.ft (Nm)	49 (66)	94 (125)
Adjustable Speed Range	(Sec/90 deg)	1 to 30 Seconds	2 to 54 Seconds
Adjustable Stroke Range	max.	90° +5° in both end positions	90° +5° in both end positions
Operation Mode	On/Off duty	S2	
	Modulating duty	S9	
Manual Operation	Automatic De-Clutch for Manual Operation		
QT Gear Ratio		4.9:1	9:1
VALVE-MOUNTING			
Flange		F05 + F07 (ISO 5211)	F07 + F10 (ISO 5211)
Output Shafts		Machinable to Suit Valve Drive	
Max Valve Stem Diameter	inch (mm)	0.78 (20) / 0.67(16)	1 (25) / 0.86 (22)
OPERATING CONDITIONS			
Ingress Protection		IP66(NEMA 4x), IP67(NEMA 6), IP68	
Ambient Temperature		-40°C to + 60°C	
HOUSING			
Material		Aluminum	
Enclosure		Weather-Proof / Explosion-Proof (optional)	
Certifications		1ph, 24VD – CSA NEC 500 / NEC505, ATEX, IECEx, LVD	
Coating		High quality two component polyurethane paint system-C3 ISO12944-5	
Weight	lbs./kg	30 (13.5)	34.2 (15.5)
MOTOR			
Isolation Class		Class F	
Power Supply	V	24 - 230 VDC *, Single Phase 115V-230V +/-10%,Three Phase 380V-480V +/-10% (*Restrictions apply)	
Current Consumption	A	2.25	
Power	W	250	
ACTUATOR CONTROL			
Electronic with Frequency-Technology		Integrated processor control unit with frequency-technology for variable speed control	
Control Unit			
Control Elements		<ul style="list-style-type: none"> · Pad-Lockable Selector Switch LOCAL - OFF- REMOTE · Control switch OPEN - STOP - CLOSE contact less sensor technology · Language independent symbols 	
Control Function		<ul style="list-style-type: none"> · Full stroke test · Partial stroke test 	
Local Display		Backlit LCD display, can be rotated in 90 degree increments	
LEDs		Programmable LED's for operation, readiness, warning and error messages	
Communication		Infrared & Bluetooth communication interface for programming and saving operation data	
Control			
Inputs		<ul style="list-style-type: none"> · 5 configurable discrete inputs for command inputs: OPEN - STOP - CLOSE - EMERGENCY OPEN - EMERGENCY-CLOSE · Power supply: 24VDC (max. 30VDC) - current consumption with 24VDC: typical 5mA · The common ground of the inputs is optical isolated from the rest of the electronics · Analog control 4-20 mA (2 wire) 	
Status Indication			
Outputs		<ul style="list-style-type: none"> · 8 configurable discrete output relays for status: READY - OPEN - CLOSE - RUNNING OPEN - RUNNING CLOSE - TORQUE - LOCAL - REMOTE · Power supply 24VDC+/- 6V (per actuator or through control system) · Max allowed current per output: 50mA (short-circuit-proof) · Max allowed current for all outputs with power supplied by actuator: 150mA · Max allowed current for all outputs with power supplied by control system: 250mA · All outputs are optical isolated if power is supplied by control system 	
Voltage Input and Output			
Power Supply - External		<ul style="list-style-type: none"> · Input power range: 20-30 VDC max current consumption 320mA or 100mA in current save mode · Status indication also in case of a main power supply failure 	
Power Supply - By Actuator		<ul style="list-style-type: none"> · Output voltage: typical 22V max output current 150mA · Reference ground is the common ground of the control unit and of the analog inputs and outputs 	
Functions			
Standard		<ul style="list-style-type: none"> · Switch-off mode adjustable: travel or torque dependent to valve type · Torque/Force adjustable: 25-100% of max torque/force · 4 intermediate positions between 0 and 100% in both directions parametrizable · Variable Speed operation with adjustable speed profiles independent of direction. · Configurable profiles for Local – Remote – ESD scenarios. · PID positioner for 2 input signals 0/4-20mA (setpoint, external actual value) · Writing and reading protection via password · Multi-lingual display indication: German, English, Czech, Russia and Danish · Status indication of binary inputs and outputs and also of the analog signals on LCD display · Data logging for analysis and service · History data for service planning and error analysis · Motor protection with thermal switches in motor 	
Electric connection			
Cable Entries		3 metric threaded holes for cable glands: Weather-proof 1xM40, 1xM32, 1xM25 / Explosion-proof 1xM40 + 2xM20	
OPTIONS			
Digital Communications		Modbus RTU, ProfiBus, ProfiNet, Foundation FieldBus HART Platforms	
Relay Board		250 VAC, 2A with 4 outputs	
Analog Position Transmitter		0/4-20mA (2-wire)	
Coating		4 Layer with Epoxy Under Coat for increased Corrosion protection – C5-I, C5-M ISO12944-5	