

rotork® Controls

ExMax Range

Part-Turn Electric Valve Actuators with Spring-Return Option
5 – 150 Nm, 45 – 1350 lbf.in



Keeping the World Flowing

rotork®

Keeping the World Flowing



**RELIABILITY
IN FLOW CONTROL
CRITICAL
APPLICATIONS**



RELIABLE OPERATION WHEN IT MATTERS

Assured reliability for critical applications and environments. Whether used 24/7 or infrequently, Rotork products will operate reliably and efficiently when called upon.

QUALITY DRIVEN GLOBAL MANUFACTURING

Products designed with 60 years of industry and application knowledge.

Research and development across all our facilities ensures cutting edge products are available for every application.

CUSTOMER-FOCUSED SERVICE WORLDWIDE SUPPORT

Solving customer challenges and developing new solutions. From initial enquiry through to product installation, long-term after-sales care and Client Support Programmes (CSP).

LOW COST OF OWNERSHIP

Long-term reliability prolongs service life.

Rotork helps to reduce long-term cost of ownership and provides greater efficiency to process and plant.

ExMax Range

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COMPREHENSIVE PRODUCT RANGE SERVING MULTIPLE INDUSTRIES

Improved efficiency, assured safety and environmental protection.

Rotork products and services cover Oil & Gas, Water & Wastewater, Power, Marine, Pharmaceutical, HVAC, Mining, Biomedical, Rail, Pulp & Paper and Food & Beverage industries around the world.

GLOBAL PRESENCE LOCAL SERVICE

Global company with local support.

Manufacturing sites, service centres, sales offices and *Centres of Excellence* throughout the world provide unrivalled customer services and fast delivery.

MARKET LEADER TECHNICAL INNOVATOR

The recognised market leader for 60 years.

Our customers have relied upon Rotork for innovative solutions to safely manage the flow of liquids, gases and powders.

CORPORATE SOCIAL RESPONSIBILITY

A responsible business leads to being the best business.

We are socially, ethically and environmentally responsible and committed to embedding CSR across all our processes and ways of working.

ExMax Features

Robust, compact and lightweight design for ease of installation

Mechanical position indication for direct reference of valve position

Explosionproof to international standards

Suitable for outdoor use with standard IP66/67 dust and watertight enclosure

Spring-return fail-safe option

24-240 VAC/VDC universal power supply

On/off duty as standard

Auto setup for ease of commissioning

Process optimisation achieved through five on-site selectable speeds

Environmental protection options available

Non-intrusive, environmentally sealed flying lead electrical connection

Standard ISO flanges available

Options

- Detachable manual override
- RedMax ex-proof and InMax non-ex-proof versions
- Stainless steel version
- Offshore / marine coating
- Optional integrated position indication at 5° and 85°
- External adjustable position indication accessory
- Fast spring-return time available
- Custom adaption service available



Backed by Rotork Global Support



Valve actuators for **hazardous location** part-turn **valve control** applications

Valve Automation

Accessories

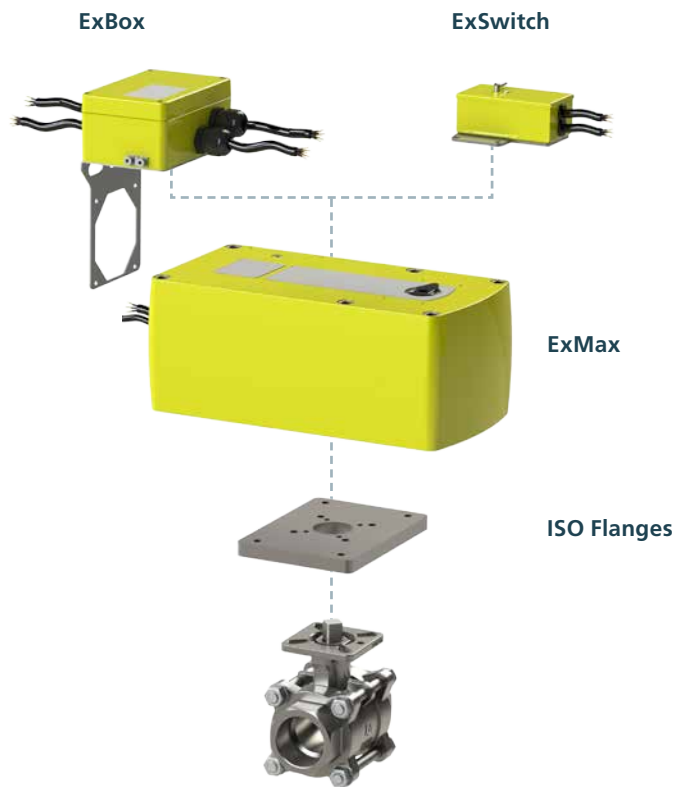
Optional accessories such as the ExBox and ExSwitch (shown here with optional mounting brackets) are available to mount remotely or directly to the actuator.

Actuator


The ExMax is a part-turn valve actuator available in small 'S' or medium 'M' size.

Linkages

ISO flanges (F05/F07, FA05/FA07), with or without an angle rotation limiter, are available upon request.



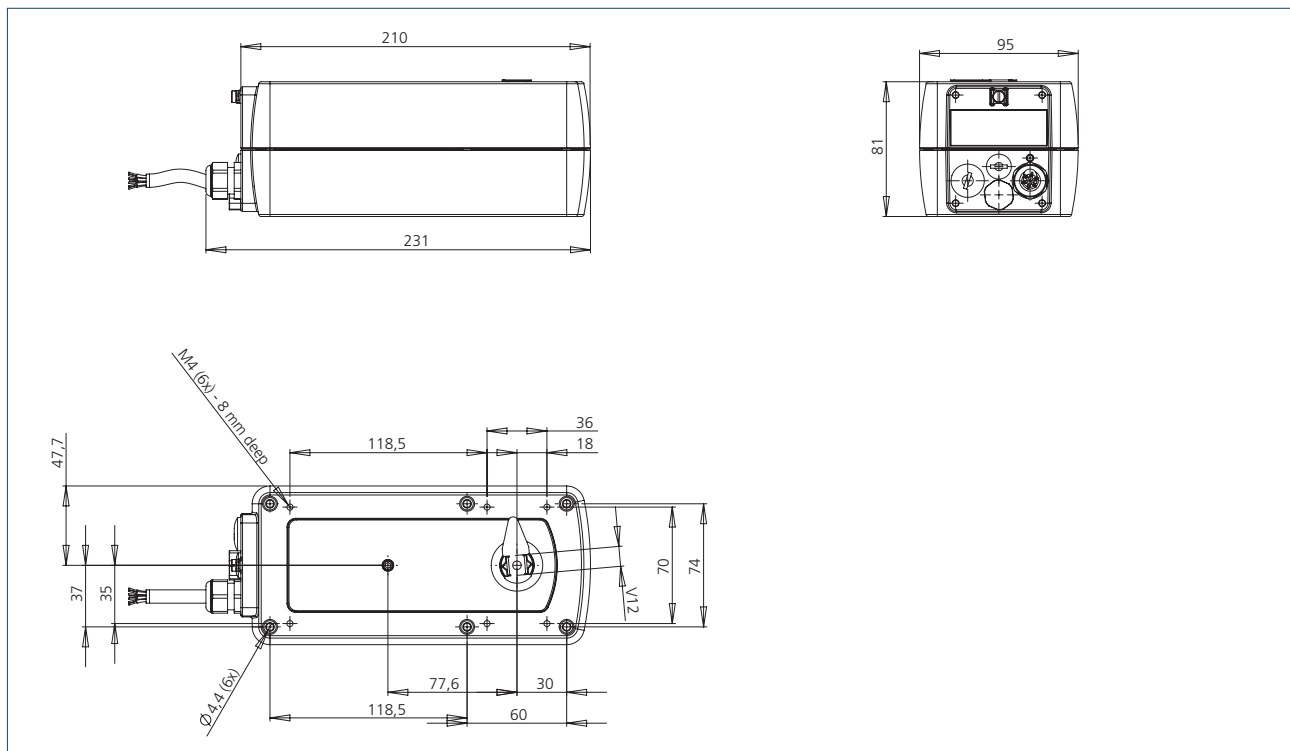
Environmental Protection Options

Features ..Max-...VA/CT	
Special Options	Basics ..Max-...VA/CT
	<p>VA:</p> <ul style="list-style-type: none"> Housing material in stainless steel similar AISI 316, some parts nickel plated <p>CT:</p> <ul style="list-style-type: none"> Increased protection painted aluminium housing, resistant against corrosive and/or maritime atmosphere Cable glands brass nickel plated Screws in stainless steel <p>For general basics see ..Max part-turn actuators.</p>

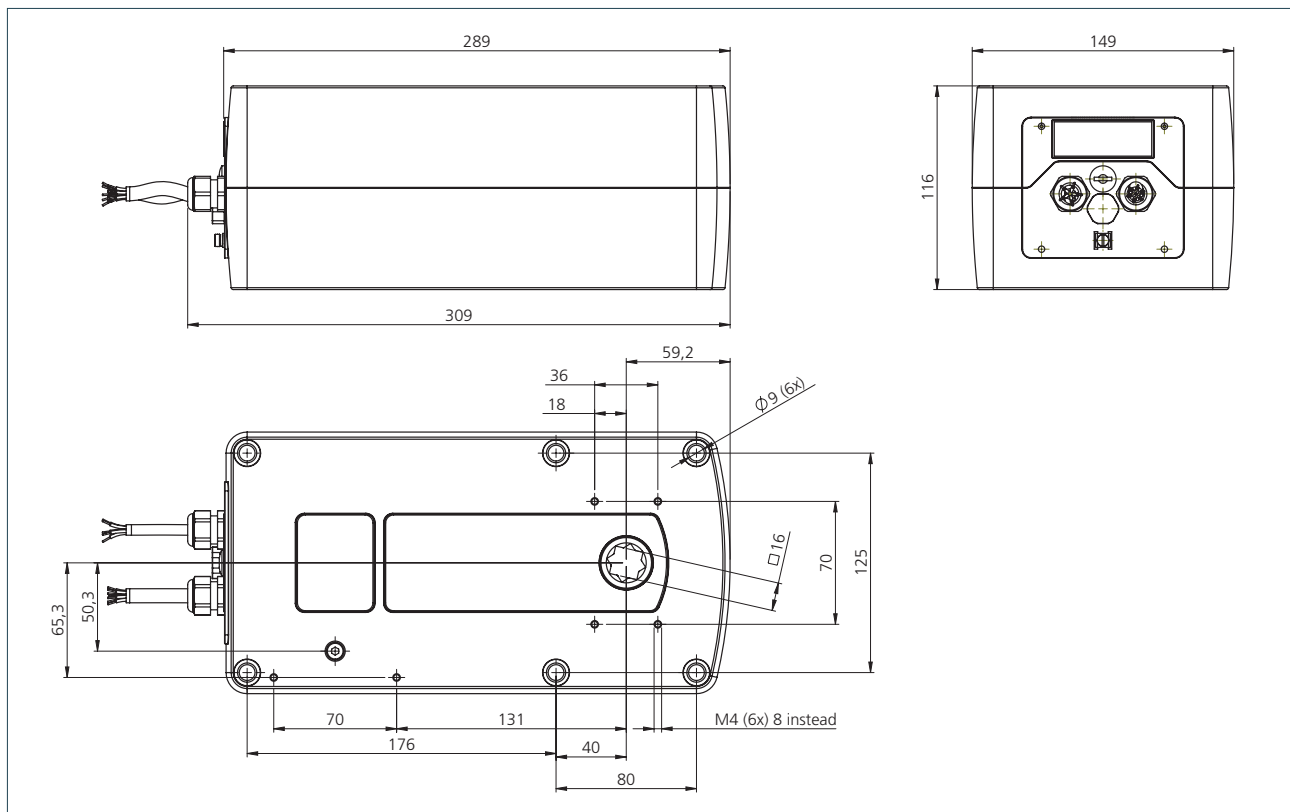
..Max-..options	
Type	Description / Technical data
..Max-...-VAS	Housing material of ..Max part-turn actuator size S in stainless steel similar AISI 316, some parts nickel plated (surcharge)
..Max-...-VAMH	Enclosure for ..Max part-turn actuator size M, made of stainless steel AISI 316 L
..Max-...-CTS	Aluminium housing of ..Max part-turn actuator size S painted with increased protection paint, resistant against corrosive and maritime atmosphere, some parts nickel plated (surcharge)
..Max-...-CTM	Aluminium housing of ..Max part-turn actuator size M with increased protection paint, resistant against corrosive and maritime atmosphere, some parts nickel plated (surcharge)
..Box-.../VA	Ex-e terminal-box, housing made of stainless-steel type AISI 316 L, some parts nickel plated (surcharge)
..Box-.../CT	Ex-e terminal-box, housing painted with increased protection paint, resistant against corrosive/maritime atmosphere, some parts nickel plated (surcharge)
..Switch-CT	Auxiliary switch for ..Max-..., housing with increased protection paint, resistant against corrosive/maritime atmosphere, some parts nickel plated (surcharge)
MKK- S/VA	Mounting bracket, made of stainless-steel suitable for ..Box...VA for direct coupling to ..Max actuators size S
MKK- M/VA	Mounting bracket, made of stainless-steel suitable for ..Box...VA for direct coupling to ..Max actuators size M
MKK-VAMH/VA	Mounting bracket, made of stainless-steel suitable for ..Box...VA for coupling to ..Max actuators size M in combination with enclosure VAMH
Kit-S8-Max	Cable glands 2 x M16 x 1,5 mm Ex-e standard Ø 5-10 mm in brass nickel plated, 1 blind plug for replace the plastic version of part-turn actuator ..Max
Kit-S8-Box	Cable glands 4 x M20 x 1,5 mm Ex-e Ø 6-13 mm, brass nickel plated, for replace the plastic version of terminal ..Box
Kit-Offs-PMC-1C	Protection metal conduit incl. SS terminal box and glands for 1 armoured cable
Kit-Offs-PMC-2C	Protection metal conduit incl. SS terminal box and glands for 2 armoured cables
WS-S	Weather shield in stainless steel, suitable for all ..Max actuators size S
WS-M	Weather shield in stainless steel, suitable for all ..Max actuators size M

Dimensional Drawings

ExMax Size "S"



ExMax Size "M"



For further technical information and dimensional data for UL and CSA variants, please visit www.schischek.com

Part-turn Actuators Size "S" 5 – 30 Nm

ExMax actuators are designed for ball valves, throttle valves and other part-turn applications.



Standard features for all size S

- 24...240 VAC/VDC self adaptable power supply
- Up to 5 different running times adjustable on site
- 95° angle of rotation (5° for pretension)
- 100% overload protected
- Aluminium housing IP66, cable ~1 m
- -40 to +40/+50 °C, integrated heater
- Emergency manual override
- Squared shaft connection 12 × 12 mm
- Dimensions (H × W × D) 210 × 95 × 80 mm
- 1 m cable flying lead connection
- ISO flange F05 / F07 or FA05 / FA07 available on request*
- Optional flange available with angle rotation limiter for 90 degree travel*
- Class A and B (on/off and inching) duty available**

Environmental certification

- Zone 1, 2, 21, 22 gas and dust
- ATEX, IECEx
- Regional certification available, see www.schischek.com for details

Product codes/definitions

Example Model Numbers

Ex - **Max** - **5.10** - **SF**

Actuator Type

- Ex = For use in zone 1, 2, 21, 22
- Red = For use in zone 2, 22
- In = For use in non-classified industrial areas

Actuator Range

Max is a rotary (part-turn) actuator for dampers or rotary valves, such as ball or butterfly valves

Torque Settings (Nm)

Two numbers mean that the torque is selectable on site (e.g. 5 or 10 Nm)

Options

- S = Optional integrated position indication at 5° and 85°
- F = Spring-return
- Y = 0-10 VDC or 4-20 mA control and feedback signal
- F/F1 = Actuator with fast spring-return (number after letter F shows closing time in seconds, e.g. in 1 second)
- C = Actuator for direct communication with Ex/InReg controller
- VAS = Stainless steel housing
- CTS = Aluminium housing with increased protection paint
- A = UL and CSA certified variant

*Please state at time of order whether this is required.

** to EN 15714-2 Industrial valves - Actuators

Part 2: Electric actuators for industrial valves - Basic requirements. For 24V at 7.5s runtime please contact Rotork.

Size "S" Actuator Specification and Accessories

Part-turn actuators without spring-return, 24 to 240 VAC/DC, for zone 1, 2, 21, 22

Type (ATEX and IECEx)	Type (UL and CSA)	Torque		Running time 90°	Spring-return	Control mode	Feedback
		Nm	lbf.in				
ExMax- 5.10	ExMax- 45.90-A	5 / 10	45 / 90	3/15/30/60/120 sec.	-	On-off, 3-pos	
ExMax-15.30	ExMax-135.270-A	15 / 30	135 / 270	3/15/30/60/120 sec.	-	On-off, 3-pos	
ExMax- 5.10-S	ExMax- 45.90-S-A	5 / 10	45 / 90	3/15/30/60/120 sec.	-	On-off, 3-pos	2 x aux. switches (5°/85°)
ExMax-15.30-S	ExMax-135.270-S-A	15 / 30	135 / 270	3/15/30/60/120 sec.	-	On-off, 3-pos	2 x aux. switches (5°/85°)
ExMax- 5.10-Y	ExMax- 45.90-Y-A	5 / 10	45 / 90	7,5/15/30/60/120 sec.	-	3-pos, 0-10 VDC, 4-20 mA	0-10 VDC, 4-20 mA
ExMax-15.30-Y	ExMax-135.270-Y-A	15 / 30	135 / 270	7,5/15/30/60/120 sec.	-	3-pos, 0-10 VDC, 4-20 mA	0-10 VDC, 4-20 mA

Part-turn actuators with spring-return, 24 to 240 VAC/DC, for zone 1, 2, 21, 22

Type (ATEX and IECEx)	Type (UL and CSA)	Torque		Running time 90°	Spring-return	Control mode	Feedback
		Nm	lbf.in				
ExMax-5.10- F	ExMax-45.90-F-A	5 / 10	45 / 90	3/15/30/60/120 sec.	~ 3 sec. / 10 sec.	On-off, 3-pos	-
ExMax- 15- F	ExMax- 135-F-A	15	135	3/15/30/60/120 sec.	~ 3 sec. / 10 sec.	On-off, 3-pos	-
ExMax-5.10-SF	ExMax-45.90-SF-A	5 / 10	45 / 90	3/15/30/60/120 sec.	~ 3 sec. / 10 sec.	On-off, 3-pos	2 x aux. switches (5°/85°)
ExMax- 15-SF	ExMax- 135-SF-A	15	135	3/15/30/60/120 sec.	~ 3 sec. / 10 sec.	On-off, 3-pos	2 x aux. switches (5°/85°)
ExMax-5.10-YF	ExMax-45.90-YF-A	5 / 10	45 / 90	7,5/15/30/60/120 sec.	~ 3 sec. / 10 sec.	3-pos, 0-10 VDC, 4-20 mA	0-10 VDC, 4-20 mA
ExMax- 15-YF	ExMax- 135-YF-A	15	135	7,5/15/30/60/120 sec.	~ 3 sec. / 10 sec.	3-pos, 0-10 VDC, 4-20 mA	0-10 VDC, 4-20 mA

Part-turn actuators with 1 sec. spring-return, 24 to 240 VAC/DC, for zone 1, 2, 21, 22

Type (ATEX and IECEx)	Type (UL and CSA)	Torque		Running time 90°	Spring-return	Control mode	Feedback
		Nm	lbf.in				
ExMax- 8- F1	ExMax- 72-F1-A	8	72	3/15/30/60/120 sec.	≤ 1 sec.	On-off	-
ExMax-15- F1	ExMax-135-F1-A	15	135	3/15/30/60/120 sec.	≤ 1 sec.	On-off	-
ExMax- 8-SF1	ExMax- 72-SF1-A	8	72	3/15/30/60/120 sec.	≤ 1 sec.	On-off	2 x aux. switches (5°/85°)
ExMax-15-SF1	ExMax-135-SF1-A	15	135	3/15/30/60/120 sec.	≤ 1 sec.	On-off	2 x aux. switches (5°/85°)

Accessories

Type	Technical data
ExSwitch	Externally mountable, on site adjustable Ex-d auxiliary switch box with 2 potential free contacts, adaptable to ExMax-... actuators
ExBox-3P	Ex-e terminal box connectable to ExMax-... actuators with 1 cable for On-off or 3-pos operation
ExBox-3P/SW	Ex-e terminal box connectable to ExMax-... actuators with 1 cable for On-off or 3-pos operation + 2 cable for external aux. switches type ExSwitch
ExBox-Y/S	Ex-e terminal box connectable to ExMax-... actuators with 2 cable, for modulating operation or 3-pos + integrated switches (HS)
ExBox-Y/S/SW	Ex-e terminal box connectable to ExMax-... actuators with 2 cable, for modulating or 3-pos operation with feedback signal + 2 cable for external aux. switches
MKK-S	Mounting bracket for ...Box-terminal boxes for direct coupling to ...Max... actuators size S
HV-SK, HV-SL	Manual override, connectable to actuators size S. HV-SK = short version, HV-SL = long version for add. mounting of ..Box/..Switch (not suitable for ..Max-...-F1)
AR-12-xx	Squared reduction part from 12 x 12 mm to shafts with 11 mm (type AR-12-11), 10 mm (type AR-12-10), 8 mm (type AR-12-08)
DWB-S	Angle rotation limiter for mounting on actuator size S (details on request)
Stick (UL & CSA model only)	Stick to change parameter and factory settings such as running time, torque, spring return time, force control and write protection depending on actuator

Part-turn Actuators Size "M" 30 – 150 Nm

ExMax are designed for ball valves, throttle valves and other part-turn applications.



Standard features for all size M

- 24...240 VAC/VDC self adaptable power supply
- Up to 5 different running times adjustable on site
- 95° angle of rotation (5° for pretension)
- 100% overload protected
- Aluminium housing IP66/67, cable ~1 m
- -40 to +40/+50 °C, integrated heater
- Emergency manual override
- Squared shaft connection 16 x 16 mm
- Dimensions (H x W x D) 289 x 149 x 116 mm
- 1 m cable flying lead connection
- ISO flange F05 / F07 or FA05 / FA07 available on request*
- Optional flange available with angle rotation limiter for 90 degree travel*
- Class A and B (on/off and inching) duty available**

Environmental certification

- Zone 1, 2, 21, 22 gas and dust
- ATEX, IECEx
- Regional certification available, see www.schischek.com for details

Product codes / definitions

Example Model Numbers

Ex - **Max** - **50.75** - **SF**

Actuator Type

- Ex = For use in zone 1, 2, 21, 22
- Red = For use in zone 2, 22
- In = For use in non-classified industrial areas

Actuator Range

Max is a rotary (part-turn) actuator for dampers or rotary valves, such as ball or butterfly valves

Torque Settings (Nm)

Two numbers mean that the torque is selectable on site (e.g. 50 or 75 Nm)

Options

- S = Optional integrated position indication at 5° and 85°
- F = Spring-return
- Y = 0-10 VDC or 4-20 mA control and feedback signal
- F/F3 = Actuator with fast spring-return (number after letter F shows closing time in seconds, e.g. 3 seconds)
- C = Actuator for direct communication with Ex/InReg controller
- VAM = Stainless steel housing
- CTM = Aluminium housing with increased protection paint
- A = UL and CSA certified variant

*Please state at time of order whether this is required.

** to EN 15714-2 Industrial valves - Actuators

Part 2: Electric actuators for industrial valves - Basic requirements. For 24V at 7.5s runtime please contact Rotork.

Size "M" Actuator Specification and Accessories

Part-turn actuators without spring-return, 24 to 240 VAC/DC, for zone 1, 2, 21, 22

Type (ATEX and IECEx)	Type (UL and CSA)	Torque		Running time 90°	Spring-return	Control mode	Feedback
		Nm	lbf.in				
ExMax-50.75	ExMax-450.675-A	50 / 75	450 / 675	40/60/90/120/150 sec.	-	On-off, 3-pos	-
ExMax- 100	ExMax- 900-A	100	900	40/60/90/120/150 sec.	-	On-off, 3-pos	-
ExMax- 150	ExMax- 1350-A	150	1,350	40/60/90/120 sec.	-	On-off, 3-pos	-
ExMax-50.75-S	ExMax-450.675-S-A	50 / 75	450 / 675	40/60/90/120/150 sec.	-	On-off, 3-pos	2 x aux. switches (5°/85°)
ExMax- 100-S	ExMax- 900-S-A	100	900	40/60/90/120/150 sec.	-	On-off, 3-pos	2 x aux. switches (5°/85°)
ExMax- 150-S	ExMax- 1350-S-A	150	1,350	40/60/90/120 sec.	-	On-off, 3-pos	2 x aux. switches (5°/85°)
ExMax-50.75-Y	ExMax-450.675-Y-A	50 / 75	450 / 675	40/60/90/120/150 sec.	-	3-pos, 0-10 VDC, 4-20 mA	0-10 VDC, 4-20 mA
ExMax- 100-Y	ExMax- 900-Y-A	100	900	40/60/90/120/150 sec.	-	3-pos, 0-10 VDC, 4-20 mA	0-10 VDC, 4-20 mA

Part-turn actuators with spring-return, 24 to 240 VAC/DC, for zone 1, 2, 21, 22

Type (ATEX and IECEx)	Type (UL and CSA)	Torque		Running time 90°	Spring-return	Control mode	Feedback
		Nm	lbf.in				
ExMax-30- F	ExMax-270-F-A	30	270	40/60/90/120/150 sec.	~ 20 sec.	On-off, 3-pos	-
ExMax-50- F	ExMax-450-F-A	50	450	40/60/90/120/150 sec.	~ 20 sec.	On-off, 3-pos	-
ExMax-60- F	ExMax-540-F-A	60	540	40/60/90/120 sec.	~ 20 sec.	On-off, 3-pos	-
ExMax-30-SF	ExMax-270-SF-A	30	270	40/60/90/120/150 sec.	~ 20 sec.	On-off, 3-pos	2 x aux. switches (5°/85°)
ExMax-50-SF	ExMax-450-SF-A	50	450	40/60/90/120/150 sec.	~ 20 sec.	On-off, 3-pos	2 x aux. switches (5°/85°)
ExMax-60-SF	ExMax-540-SF-A	60	540	40/60/90/120 sec.	~ 20 sec.	On-off, 3-pos	2 x aux. switches (5°/85°)
ExMax-30-YF	ExMax-270-YF-A	30	270	40/60/90/120/150 sec.	~ 20 sec.	3-pos, 0-10 VDC, 4-20 mA	0-10 VDC, 4-20 mA
ExMax-50-YF	ExMax-450-YF-A	50	450	40/60/90/120/150 sec.	~ 20 sec.	3-pos, 0-10 VDC, 4-20 mA	0-10 VDC, 4-20 mA

Part-turn actuators with 3 sec. spring-return, 24 to 240 VAC/DC, for zone 1, 2, 21, 22

Type (ATEX and IECEx)	Type (UL and CSA)	Torque		Running time 90°	Spring-return	Control mode	Feedback
		Nm	lbf.in				
ExMax-30- F3	ExMax-270-F3-A	30	270	40/60/90/120/150 sec.	≤ 3 sec.	On-off	-
ExMax-50- F3	ExMax-450-F3-A	50	450	40/60/90/120/150 sec.	≤ 3 sec.	On-off	-
ExMax-30-SF3	ExMax-270-SF3-A	30	270	40/60/90/120/150 sec.	≤ 3 sec.	On-off	2 x aux. switches (5°/85°)
ExMax-50-SF3	ExMax-450-SF3-A	50	450	40/60/90/120/150 sec.	≤ 3 sec.	On-off	2 x aux. switches (5°/85°)

Accessories

Type	Technical data
ExSwitch	Externally mountable, on site adjustable Ex-d auxiliary switch box with 2 potential free contacts, adaptable to ExMax-... actuators
ExBox-3P	Ex-e terminal box connectable to ExMax-... actuators with 1 cable for On-off or 3-pos operation
ExBox-3P/SW	Ex-e terminal box connectable to ExMax-... actuators with 1 cable for On-off or 3-pos operation + 2 cable for external aux. switches type ExSwitch
ExBox-Y/S	Ex-e terminal box connectable to ExMax-... actuators with 2 cable, for modulating operation or 3-pos + integrated switches (HS)
ExBox-Y/S/SW	Ex-e terminal box connectable to ExMax-... actuators with 2 cable, for modulating or 3-pos operation with feedback signal + 2 cable for external aux. switches
MKK-M	Mounting bracket for ...Box-terminal boxes for direct coupling to ...ExMax... actuators size M
HV-MK	Manual override, connectable to actuators size M (not suitable for ..Max-...F3)
AR-16-xx	Squared reduction part from 16 x 16 mm to shafts with 14 mm (type AR-16-14), 12 mm (type AR-16-12)
DWB-M	Angle rotation limiter for mounting on actuator size M
Stick (UL & CSA model only)	Stick to change parameter and factory settings such as running time, torque, spring return time, force control and write protection depending on actuator



Keeping the World Flowing

A dark blue, semi-transparent world map with a white grid of latitude and longitude lines, serving as a background for the lower half of the page.

www.rotork.com

A full listing of our worldwide sales and service network is available on our website.

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