

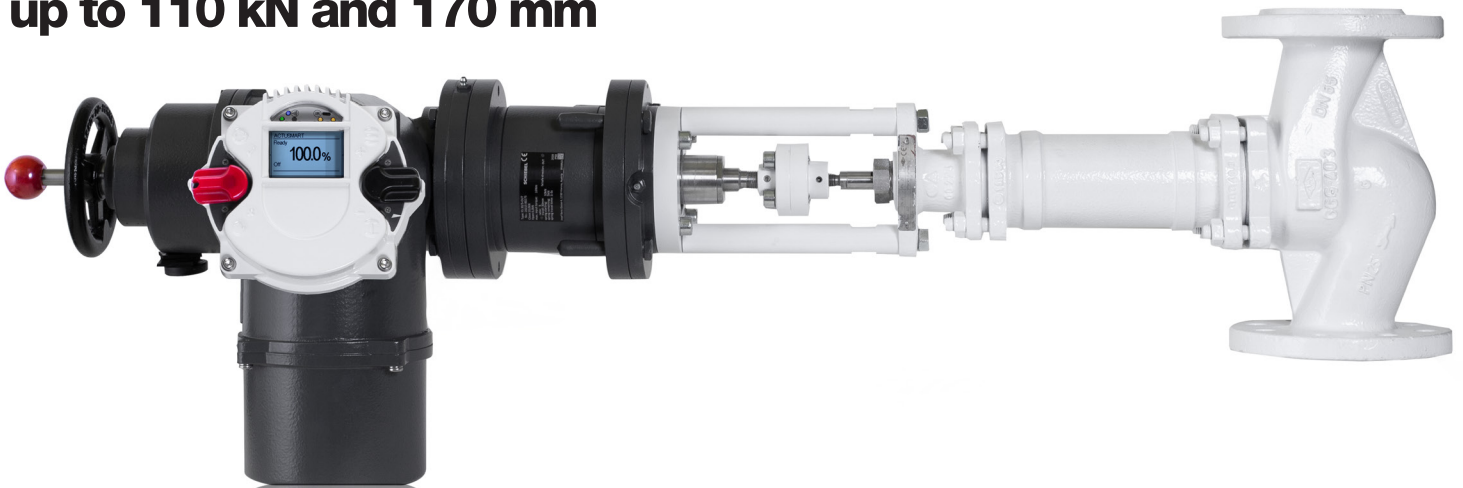
SCHIEBEL

failsafe series

issue October 2023

CM Failsafe Linear

Modulating-Duty / On-Off-Duty
up to 110 kN and 170 mm



Power supply

- AC: 1 phase 100VAC...240VAC 50/60Hz +/-10%
- DC: 24VDC +/-10% ■ 3-phase: 380...480VAC 50/60Hz +/-10%

Motor

- PM-motor ■ Controlled via BLDC motor control board
- Isolation class F

Absolut encoder

- (magnetic based) for high precision control with an accuracy of 0,1%

Operation mode

- CMxx: ON/OFF duty S2-15min & class A and B ■ rCMxx: Modulating duty S4-1200 cycles/hour with 40% duty cycle & class C

Local control

- Selector switch LOCAL-OFF-REMOTE - lockable
- Control switch OPEN-STOP-CLOSE ■ Large LC-display for detailed visualization of status information & parameters - different languages selectable ■ Red display backlight for alarms ■ 5 RGB LEDs for status indication & control information ■ Cover lid with display in 90° steps rotatable ■ Bluetooth & infrared interface for data exchange and actuator control with Android App or Windows PC

Remote control

- 5 binary inputs 24VDC: Open - Stop - Close - Emergency Open - Emergency Close, free programmable, 24VDC rated voltage with common ground potential, inputs with jumpers configurable in groups with separated commons

Status signals

- 8 binary outputs 24VDC: Ready - Open - Closed - Opening - Closing - Torque - Local - Remote, free programmable, 24VDC supply, max. load 0,5A/channel

Handwheel

- Optional

Explosion protection

- Protection class Ex II 2 G Ex de IIC T4
- Certifications ATEX, IECEX, NEC

Features

- Free programmable step mode control for open and close
- 4 intermediate positions definable ■ Actuator torque adjustable between 25-100% from max. torque ■ Alternative menu structure available ■ Different user levels selectable ■ Counter values for preventive Maintenance notification

Valve connection

- Flange and output shaft according ISO 5210

Electric connectors

- Power connection via 10pole screw plug Han10E+PE
- Control and status signals via 24pole screw plug Han24E
- Metric cable entries for cable glands, closed with dummy glands
- Ex-design: terminal block

Ambient temperature

- -25°C up to +60°C, extended temperature range on request

Enclosure protection

- IP67 according EN 60 529, IP68 on request

Corrosion protection

- C2 according EN ISO 12944-5 for installation in aggressive atmosphere, C3 to C5 on request

Color

- RAL7024 - graphite grey, all others on request

Modulating-Duty / On-Off-Duty / up to 85 kN and 170 mm

Failsafe Actuators for Shut-Off Valves

Size		(r)CM03 FS 30/5	(r)CM03 FS 50/8	(r)CM03 FS 100/12	(r)CM06 FS 100/30	(r)CM06 FS 170/25	(r)CM12 FS 120/45
Electric force for valve against FS Direction	kN	8	19	16	22	22	56
Max. force S4-operation	kN	5	10	12	15	15	30
Max. force S9-operation	kN	3	7	8	10	10	20
Spring remaining torque in failsafe mode	kN	5	8	12	30	25	45
Max. valve stroke	mm	30	50	100	100	170	120
Stroke speed electrical, adjustable	mm/sec	0,21-5,83	0,21-5,83	0,21-5,83	0,13-3,93	0,13-3,93	0,16-4,53
Stroke speed electrical, adjustable 24VDC	mm/sec	0,21-5,83	0,21-5,83	0,21-5,83	0,21-1,62	0,21-1,62	--
Stroking time in failsafe mode	sec	1-5	1-5	2-10	4-15	4-15	5-10
Valve flange	ISO 5210	F10	F10	F10&F14	F10&F14	F10&F14	F14
Weight	kg	80	99	104	159	165	312
Failsafe direction / Failsafe action		spindle extending close / spindle retracting open					
Power supply Failsafe brake – 24VDC	A	0,67A (16W)			0,875A (21W)		1,17A (28W)
Power supply 1ph (Standard)		AC: 1phase 100VAC...240VAC 50/60Hz +/-10%					
Nominal current @1x230VAC	A	1,47A (16Nm / 72rpm)		2,17A (20Nm / 60rpm)		3,8A (40Nm / 70rpm)	
Power supply 3ph (Option)		AC: 3phase 380...480VAC 50/60Hz +/-10%					
Nominal current @3x400VAC	A	0,46A (16Nm / 72rpm)		0,9A (32Nm / 60rpm)		1,4A (64Nm/60rpm)	
Power supply 24VDC (Option)		DC: 24VDC +/-10%					
Nominal current	A	4,6A (10Nm / 20rpm)		9,2A (32Nm / 20rpm)		--	

Failsafe Actuators for Reverse Acting Gate Valves

Size		(r)CM03 FS 80/4	(r)CM06 FS 80/4	(r)CM12 FS 120/20
Electric force for valve against FS Direction	kN	23	46	85
Max. force S4-operation	kN	8	15	30
Max. force S9-operation	kN	5	10	20
Spring remaining torque in failsafe mode	kN	4	4	20
Max. valve stroke	mm	30	100	120
Stroke speed electrical, adjustable	mm/sec	0,21-5,83	0,13-3,93	0,16-4,53
Stroke speed electrical, adjustable 24VDC	mm/sec	0,21-5,83	0,21-1,62	--
Stroking time in failsafe mode	sec	1-5	4-15	5-10
Valve flange	ISO 5211	F10	F10&F14	F14
Weight	kg	49	56	258
Failsafe direction / Failsafe action		spindle retracting close / spindle extending open		
Power supply Failsafe brake – 24VDC	A	0,67A (16W)	0,875A (21W)	1,17A (28W)
Power supply 1ph (Standard)		AC: 1phase 100VAC...240VAC 50/60Hz +/-10%		
Nominal current @1x230VAC	A	1,47A (16Nm / 72rpm)	2,17A (20Nm / 60rpm)	70rpm)
Power supply 3ph (Option)		AC 3~380-480V 50/60Hz +/-10%		
Nominal current @3x400VAC	A	0,46A (16Nm / 72rpm)	0,9A (32Nm / 60rpm)	1,4A (64Nm/60rpm)
Power supply 24VDC (Option)		DC: 24VDC +/-10%		
Nominal current	A	4,6A (10Nm / 20rpm)	9,2A (32Nm / 20rpm)	--

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90° Failsafe

Modulating-Duty / On-Off-Duty
up to 12.000 Nm



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Valve connection

- Flange and output shaft according ISO 5211

Electric connectors

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Modulating-Duty / On-Off-Duty / up to 12.000 Nm

Size		(r)CM03 FSQT 30	(r)CM03 FSQT 60	(r)CM06 FSQT 100	(r)CM06 FSQT 200	(r)CM06 FSQT 300	(r)CM06 FSQT 500
Max. torque electric mode	Nm	300	600	1000	2000	3000	5000
Max. modulating torque rCM	Nm	150	300	500	1000	1500	2500
Spring remaining torque in failsafe mode	Nm	150	300	500	1000	1500	2500
Stroking time 90° electric mode (adjustable)	sec	15-400	15-400	20-500	30-650	30-650	44-650
Stroking time 90° electric mode (24VDC)	sec	54-400	54-400	60-500	90-650	90-650	132-650
Stroking time 90° in failsafe mode	sec	1-5	1-5	1-5	2-10	3-15	5-20
Valve flange	ISO 5211	F07&F10	F10&F12	F12&F14	F14&F16	F14&F16	F16&F25
Max. Ø valve shaft with bushing	mm	25	40	49	60	60	75
Max. valve square with bushing	mm	22	32	41	46	46	60
Max. valve stem length	mm	80	99	104	124	127	127
Weight	kg	43	53	140	200	215	353
Failsafe direction / Failsafe action		cw close / ccw open / cw open / ccw close					
Power supply Failsafe brake – 24VDC	A	0,67A (16W)			0,875A (21W)		1,17A (28W)
Power supply 1ph (Standard)		AC: 1phase 100VAC...240VAC 50/60Hz +/-10%					
Nominal current @1x230VAC	A	1,47A (16Nm / 72rpm)		2,17A (20Nm / 60rpm)			
Power supply 3ph (Option)		AC: 3phase 380...480VAC 50/60Hz +/-10%					
Nominal current @3x400VAC	A	0,46A (16Nm / 72rpm)		0,9A (32Nm / 60rpm)			
Power supply 24VDC (Option)		DC: 24VDC +/-10%		DC: 24VDC +/-10%			
Nominal current	A	4,6A (10Nm / 20rpm)		9,2A (32Nm / 20rpm)			

Size		(r)CM12 FSQT 800	(r)CM12 FSQT 1200
Max. torque electric mode	Nm	8000	12000
Max. modulating torque rCM	Nm	4000	6000
Spring remaining torque in failsafe mode	Nm	4000	6000
Stroking time 90° electric mode (adjustable)	sec	57-1555	70-1885
Stroking time 90° in failsafe mode	sec	10-30	10-30
Valve flange	ISO 5211	F25&F30	F30&F35
Max. Ø valve shaft with bushing	mm	120	120
Max. valve square with bushing	mm	90	90
Max. valve stem length	mm	200	200
Weight	kg	602	950
Failsafe direction / Failsafe action		cw close / ccw open / cw open / ccw close	
Power supply 1ph (Standard)		AC: 1phase 100VAC...240VAC 50/60Hz +/-10%	
Nominal current @1x230VAC	A	3,8A (40Nm / 70rpm)	
Power supply 3ph (Option)		AC: 3phase 380...480VAC 50/60Hz +/-10%	
Nominal current @3x400VAC	A	1,4A (64Nm/60rpm)	