







Omeax established itself as a electric actuator manufacturer in 2007. With main focus on the design and development of electric actuator, we have been providing our product and services worldwide. Our quality and technical innovation have contributed to the growing industry recognition and made collaborations with many of the industry elites possible.

Our customer base include countries of Europe, United states, Australia, Africa, South East Asia and Middle East. With application to water treatment, HVAC, petroleum, chemical, electronics, light industry, food, medicine, textile, papermaking, hydropower, ship, smelting, new energy and so forth.

Omeax is an ISO 9001, ISO 14001 and OHSAS 18001 certified company. Most importantly, Omeax electric actuators mark with CE, CSA, explosion-proof (ATEX, IECEx), IP68, RoHS and REACH. Most are given by internationally renowned certification bodies such as TUV, NEPSI, DNV, CSA, SGS, BSI and such. There are currently over 40 product patents that Omeax possesses as of now.

As one of the leading electric actuator manufacturer, we always adhere to "CUSTOMER FIRST, RESEARCH & INNOVATION, CONTINUOUS IMPROVEMENT, TEAMWORK" concepts.



PATENTED TRANSMISSION MECHANISM DESIGN

ELM010~080 series of electric actuators equipped with patented manual / electric switching function. Under the electric state, the actuator will automatically switched to manual control any time the handwheel is being pushed forward. And the handwheel will not rotate with the motor to ensure the operator's safety. Under the manual state, all it takes is to pull the handwheel to switch to the electric operation.

ELM100 ~ 250 series of electric actuators equipped with manual / electric automatic switching function. No clutch design so that the handwheel can be rotated when it's operating as there's no interference. Thus ensures the operator's safety. Such mechanical design will be the mainstream in the future.

SELF-LOCKING PROTECTION

With high-strength anti-rust drive screw and copper alloy wear-resistant drive nuts constitute the output unit of the actuator, it changes the rotary motion into linear motion. Such mechanism adopts the self-locking function, thus satisfies the self-locking needs when the valve is in the greater pressure situations.



CHARACTERISTICS

The output unit of the actuator is provided with a bidirectional disc spring device. With a certain preload, ensures the longer period of time of being opened or closed of the valve. Also to reduce the valve pressure instability for the impact of the actuator.

INTERCHANGEABLE CONNECTING BOLTS

According to the different thread of the valve thread connection, the actuator connection bolts can be designed for different thread connection specifications. Can be quickly replaced for easier and faster operation.

USER INTERACTION INTERFACE

Intelligent type is equipped with brand new UI control interface, with the specialized remote control, achieves a variety of functions of the actuator configuration operation. Supports multi-language, satisfies all kinds of demands from the customer. It can also be customized based on special requirements.

ENVIRONMENTALLY FRIENDLY

Can be equipped with DC motor and drive technology, also able to receive solar or wind power equipment power supply thus minimized the impact to the environment to the fullest extent.



LINEAR SAFER MORE RELIABLE & STABLE

OPERATIONAL SAFETY

F grade (H grade is optional) insulation motor. The motor windings are equipped with temperature control switches to sense the temperature of the motor and provide over temperature protection, which ensures the operational safety of the motor.

ANTI-HUMIDITY RESISTANCE

Installed with heater inside the actuator used to remove the internal condensation which cause damages to electrical parts.

PHASE PROTECTION

Phase detection and correction functions avoid the actuator being damaged by connecting to the wrong power phase.

VOLTAGE PROTECTION

Protection against high and low voltage situations.

OVERLOAD PROTECTION

The power will automatically shut off when valve jam occurs. Thus preventing further damage to the valve and actuator.

OPERATIONAL DIAGNOSIS

Intelligent actuators are equipped with multiple sensing devices. With the functions of real-time reflections of the control signal received by the actuator, fault alarm, operating parameters, status indication and other status. Multi-diagnostic function can locate the fault, thus making it easy for the users.

PASSWORD PROTECTION

Intelligent actuators possess classifiable password protection, which can be authorized to different operators to avoid misuse which causing the actuator failure.



ANTI-CORROSION PROTECTION Epoxy resin enclosure, can be NEMA 4X, customer-special painting is available. Can be customized according to customers' needs. INGRESS PROTECTION IP67 is standard, IP68 is optional. IP54 for TFAX series. Can be customized according to customers' needs. FIRE-PROOF GRADE High temperature fireproof enclosure meets requirements in different situations.Can be customized according to customers' needs. AMBIENT TEMPERATURE Temperature range is from -20 °C ... +65 °C. TFAX series is: -15 °C ~+60 °C RELATIVE HUMIDITY ≤ 95 % (25 °C)

WORKING ENVIRONMENT

CONTROL MODE LINEAR

NON-INVASIVE CONTROL

Non-through-the-shaft magnetic switch design, it is controlled by the Hall device inside the actuator. Equipped with local control / remote control / prohibit knob, and open / stop / close knob, accommodating with the indicator light and LCD screen to achieve non-invasive field control operations.

SCREW AND NUT ASSEMBLY

Using high-strength steel rust-proof screw and high wear-resistant copper alloy nuts. Each pair of screw nuts are tested before installation to ensure that the installation of the smallest gap, and the maximum efficiency of the transmission torque.

MANUAL OPERATION

Full range of products are equipped with hand wheel operating mechanism to facilitate the commissioning and emergency manual operation, manual / electric automatic switching, safe and reliable.

INFRARED REMOTE CONTROL

The intelligent type actuator is able to provide different remote control based on different application requirements. Such as portable infrared remote control in ordinary locations and explosion-proof remote control for hazardous locations.



DATA MONITORING VS MANAGEMENT LINEAR

Super intelligent type actuators adopting high-performance microprocessors, real-time collection of valve position, torque and other operational information. Logical calculation truly reflects the operating status. Real-time monitoring & managing data provides references for the actuator maintenance.





TIME-POSITION CURVE

The curve shows the running trend of the actuator, and the number of times the actuator has been passed at the corresponding positions.



AVERAGE TORQUE CURVE

It records the average output torques in the corresponding positions of both OPEN and CLOSE directions. The operating load of the actuator can be detected via the curve.



OPERATION TREND CURVE

The curve shows the cumulative number of positions corresponding to the control signal received by the actuator thus far. It enables the clients to understand the overall controlling trend of the actuator.

LINEAR INSTALLATION & MAINTENANCE

Optional double sealed structure of the wiring chamber. The internal electrical devices are guaranteed to be in a perfectly sealed protection when the actuator is performing on-site installation and debugging.

 α shrapnel terminal block, doesn't need to install a special wiring copper ring and can be directly connected. On-site installation is more convenient.

Seal off lubrication design, without regular grease supplement, life-long maintenance-free.







ELM 010-080 series Integral (M)



ELM 100-250 series Integral (M)

General Parameters	Force ra Max stro Open/clo Ambient t Anti-vibr Noise le Electric Ingress	ange oke ose time emperature ation level evel cal interface Protection	ELM010-080series 1000 - 8000 N.m ELM100-250series 10000 - 25000 N.m ELM010-080series 60 mm ELM100-250series 100 mm ELM010-080series 40 - 122 s ELM100-250series 55 - 179 s -25 °C ··· +70 °C JB/T 8219 Less than 75 dB within 1 m Two PG16 (please contact us for customization if in need of other interface) IP67, Optional: IP68Murder Varier Ivel.Duration of continuous immersion in water: Max.(72 hours). Class F, with thermal protector up to +135 °C (+275 °F)					
	Working	System	Optional: Class H • On-off Type: S2 ~ 15 min, no more than 600 times per hour start • ModulatingType: S4 ~ 50 %, up to 600 triggers per hour					
Mechanical Paramete	Applicab	ole Voltage	 Single phase: Voltage (±10 %); Hz (±5 %) 50 Hz (24, 220, 230, 240 Volts) 60 Hz (24, 110, 120, 220, 230, 240 Volts) DC: 24 V (±10 %) (Please contact Omeaxfor other voltages) 					
ors	Bus		• N/A					
		Input	 AC/DC 24 input AC 110/220 V input 					
	On/off Type Signal	Signal Feedback	 Close valve contact Open valve contact (contact capacity: 5A @ 250Vac) Optional: Opening torque signal contact Closing torque signal contact Local/remote signal contact Integrated fault signal contact 20 mA transmit 					
		Malfunction Feedback	 Integrated fault alarm:Power off, motor overheating, lack of phase, over torque, broken signal 					
	Modula	Input	 Input signal:4 - 20 mA; 0 - 10 V; 2 - 10 V Input impedance:250 Ω (4 - 20 mA) 					
	ting Type	Output	 Output signal: 4 - 20 mA; 0 - 10 V; 2 - 10 V Output impedance: ≤ 750 Ω (4 - 20 mA) (Repeatability and linearity within ± 1% of full valve stroke) N(A 					
	<u>S</u>	Loss Signal Mode Setting	 N/A N/A 					
	nal	Dead Zone	■ <1 %					
30	Indiantia	TIME Lag	 N/A Stroke indicator 					
ode	Operation	n Settings	■ N/A					
tro		atrol	 N/A 					
	Local Cor	ILIOI						
Ĕ	Local Cor Intellige Data Reco	ently Analyze	• N/A					
ol Others	Local Cor Intellige Data Reco	ently Analyze ords	 N/A Torque protection • Motor overheat protection Moisture-resistant heaters (anti-moisture device) 					

LINEAR

TECHNICAL SPECIFICATION



2

2

mode

ELM 010-080 series Intelligent (1)



ELM 100-250 series Intelligent (1)

General F	Force range ELM01 Max stroke ELM01 0pen/close time ELM01			-080series = 1000 - 8000 N.m -250series = 10000 - 25000 N.m -080series = 60 mm -250series = 100 mm -080series = 40 - 122 s -250series = 55 = 170 s							
ידע	Ambient	t temperati	ure	-250series - 55 - 179 s							
-ame	Anti-v	ibration le	evel	JB/T 8219							
T D T	Noise	level		Less than 75 dB within 1 m							
,,	Flectr	ical inter	face	• Two PG16 (please contact us for customization if in need of other interface)							
	Ingres	e Protectio	00	IP67. Optional: IP68 The definition of IP68 is:Depth of water: Maximum 15 m under water IP67. Optional: IP68 level Duration of continuous immersion in water. Max (72 hours)							
	Motor	Specificat	ions	 Class F, with thermal protector up to +135 °C (+275 °F) Optional: Class H 							
	Workin	g System	1	 On-off Type: S2 ~ 15 min, no more than 600 times per hour start ModulatingType: S4 ~ 50 %, up to 600 triggers per hour Optional: 1200 times per hour 							
Mechanical Para	Applic	able Volta	ge	 Single phase: Voltage (±10 %); Hz (±5 %) 50 Hz (24, 220, 230, 240 Volts) 60 Hz (24, 110, 120, 220, 230, 240 Volts) DC: 24 V (±10 %) (Please contact Omeax for other voltages) 							
me +	Bus			• N/A							
Pro	0n,	Input		AC 24 auxiliary power input control Optoelectronic isolation							
	∕off Type Si	Signal Feedback		 Close valve contact Open valve contact (contact capacity: 5A @ 250Vac) Optional: Opening torque signal contact Closing torque signal contact , Local/remote signal contact Integrated fault signal contact , 4 ~ 20 mA transmit 							
	gnal	Malfunction Feedback	1	Integrated fault alarm:Power off, motor overheating, lack of phase, over torque, signal off, ESD beyond protection, terminal output							
	Modul	Input		 Input signal: 4 - 20 mA; 0 - 10 V; 2 - 10 V Input impedance: 250 Ω (4 ~ 20 mA) 							
	ating Typ	Output		 Output signal: 4 - 20 mA; 0 - 10 V; 2 - 10 V Output impedance: ≤ 750 Ω (4 ~ 20 mA) (Repeatability and linearity within ± 1% of full valve stroke) 							
	oe Signa	Signal Rev Loss Signal Mode Settin Dead Zone	/erse	 Support Support 0.5 ~ 9.0% adjustable rate within full stroke 							
	-	Time Lag		N/A							
Cor	Indicat	tion		 LCD screen opening indicator 							
itrol	Operat Local (ion Setting Control	gs	 Settings done opening the cover Supports signal selection, status indication, fault diagnosis, and so on 							
	Intelli Data Re	gently Ana	lyze	N/A							
0thers	Other Function			Alarm signal (local and remote included) Torque protection Motor overheat protection Moisture-resistant heaters (anti-moisture device) Infrared remote control Optional: Infrared remote control							
	0ptiona	al accessor	ries (○ Flange ○ Independent wiring box ○ Remote control							



	Ge	Force	range	ELN	1100-250series	• 10000 - 25000 N.m				
	nera	Max st	roke	ELN	1100-250series	• 100 mm				
	Ĩ P	0pen/cl	ose time	ELN	1100-250series	• 55 - 179 s				
	arameter	Ambient Anti-v Noise	temperature ibration lev level	el	 -25 °C ··· +70 °C JB/T 8219 Less than 75 dB within 1 m 					
	Ś	Electr	ical interfa	се	Two PG16 (please contact us for customization if in need of other interface)					
		Ingress Protection			 IP67, Optiona 	al: 1P68 The definition of IP68 is:Depth of water: Maximum 15 m under water level.Duration of continuous immersion in water: Max.(72 hours).				
ELM 100-250 series Super Intelligent (S)		Motor Specifications Working System			 Class F, with thermal protector up to +135 °C (+275 °F) O Optional: Class H On/off type: S2 ~ 15min, no more than 600 times per hour start Modulating type: S4 ~ 50%, up to 600 triggers per hour Optional: 1200 and 1800 times per hour 					
	Mechanic	Applicable Voltage			 Single phase: Voltage (±10 %); Hz (±5 %) 50 Hz (24, 220, 230, 240 Volts) 60 Hz (24, 110, 120, 220, 230, 240 Volts) DC: 24 V (±10 %) (Please contact Omeax for other voltages) 					
	Ca	Bus			 Modbus 					
	Para	-	Input		 20~60VAC/DCor60 ~ 120VAC • Optoelectronic isolation 					
	ameters	On∕off Type Si	کر ff Signal Feedback		 Relay X 5(4 can be set to "constant open" or "constant close" contacts. 1 integrated fault contact) a, On/off in place • b, On/off over torque c, Local/remote • d, Center position e, Multiple malfuntions to choose from Optional: 4 ~ 20 mA transmit 					
		gnal	Malfunction Feedback		 Torque protection • Motor overheat protection • Jammed valve protection • Instantaneous reverse protection • Broken signal protection • Other alarms 					
		Modulatir	Input	1	 Input signal: (the input signal Accuracy: (1%) Dead zone: 0 Input impedance 	4 ~ 20 mA; 0 ~ 10 V; 2 ~ 10 V can be arbitrarily corresponding to the valve position) ~ 25.5% adjustable rate in full stroke ce: 75 Ω (4 ~ 20 mA)				
		ng Type	Output	1	 Output signal: 4 ~ 20 mA;0 ~ 10 V; 2 ~ 10 V Output impedance: ≤750Ω (4 ~ 20mA) (Repeatability and linearity within ± 1% of full valve str 					
		Signal	Signal Reve Loss Signal Mode Settin Dead Zone	r se	 Support Support 0~25.5% adjust 	table rate within full stroke				
	0		Time Lag		 0 - 25.5 s (Ad LCD screen operations 	ljustable) ning indicator				
	ontrol	Indication			 On/off/remote control/fault indicator (Digital displa of the opening percentage and torque percentage) 					
	moo	0pera	tion Settir	igs	 Configuration settir maximum torque, etc. 	res (such as valve position, the maximum opening, the				
	de	Local Control			 Non-intrusive local control knob: Open/close/stop Non-intrusive local control knob: Local/remote/prohibit 					
	Others	Intelli Data Re	gently Analy cords	ze	 Use infrared remote of Use two-way remote of communication and day recommendations 	control to conduct fault diagnosis analysis on the display ontrol to achieve fast and safe nonintrusive ta exchange. Able to analyze the actuator data and given				
		Other Function			 ESD can be set to fully opened, fully closed, and remain still Alarm signal (local and remote) Moisture-resistant heaters (anti-moisture device) Torque setting and protection Valve torque curve • Operation time • Torque bypass • Average torque Number of starts • Motor overheat protection • Valve torque curve Operational trend records • Lifetime statistics • Infrared remote control Operational: Two-way remote control 					
		0ption	al accessor	ies(SO Flange O Independent wiring box O Remote control					

1994

EAR REGULAR 080 SERIES

				Stroke spe	ed (s/mm)	Stroke sp	eed (mm/s)		
Madal	Power (w)	Max stroke	Max force	ax force 50 Hz		50 Hz		Bomork	
Model		(mm)	(n)	AC 110 V AC 220 V	AC/DC 24V	AC 110 V AC/DC AC 220 V 24 V		(mm/s)	
ELM010	10	60	1000	0.83	0.64	1. 20	1.56	Hendwheel energy in	
ELM020	10	60	2000	0.83	0.64	1.20	1.56	Manual/electric	
ELM040	10	60	4000	1.58	1.23	0.63	0.81	Switch mechanism	
ELM080	15	60	8000	2.04	1.58	0.49	0.63		

Note 1. The rated output of the actuator is 0.75 times the maximum force.

NEAR REGULAR 080 SERIES



SPECIFICATION LINEAR REGULAR 250 SERIES

				Stroke spe	ed (s/mm)	Stroke spe		
Model	Power (w)	Max stroke (mm)	Max force (n)	50 Hz AC 110 V AC 220 V	AC/DC 24 V	50 Hz AC 110 V AC 220 V	AC/DC 24 V	Remark (mm/s)
ELM100	40	100	10000	1.08	0.9	0.93	1.11	Handwheel
ELM200	40	100	20000	1.79	1.49	0.56	0.67	Planetary gear
ELM250	40	100	25000	1.79	1.49	0.56	0.67	without clutch

Note

1. The rated output of the actuator is 0.75 times the maximum force.

2. The standard color is black. Please contact us for other colors.

LINEAR REGULAR 250 SERIES



Integral Type Weight: 16kg



DIMENSION LINEAR REGULAR 250 SERIES



Intelligent Type

Weight: 18kg





Note: Above connection size is the standard configuration. Please contact us for special connection methods.

OVERVIEW HVAC SERIES LINEAR

TFAX series linear mechanism, mainly used to drive HVAC two-way valve and three-way Francis valve. The force range is 500N ~ 3000N, using high-performance AC reversible synchronous motor to ensure that the actuator can run uninterrupted. The adoption of high steel strength gear and screw effectively enhance the service life. Status indicator and movable valve position indicator allow you to observe the current opening and status from different angles. With the unique code design makes the valve positioning more accurate. Thus making the TFAX series actuators can be widely and effectively used in the field of HVAC.



Characteristic:

A key setting: The "A key" is used to setting the stroke after the installation of the valve. As it will automatically enter the running state.

Stem protection: The actuator will automatically function for a few seconds every 24 hours after powered on when idle for a long time. This can effectively reducing the valve internal components rust stuck phenomenon.

Multiple interfaces: The TFAX-040 series has a replaceable interface for changing different valve interfaces without changing the bracket. **Scale indication:** The scale can be adjusted up or down to accommodate different gate positions.

Disc spring structure: With disc spring structure, with a certain preload to ensure that the gate can be closed for a long time.

Material selection: ABS material outer box and the main body of aluminum-magnesium alloy, to ensure safety and sturdy while reducing the weight of machine structure.

Power switch: The power switch located under the main body is conducive to manual operation and equipment debugging.

GENERAL SPECIFICATION EARHVAC SERIES

				Stroke spe	eed (s/mm)	Stroke spe	ed (mm/s)		
	Power (w)	Max stroke (mm)	Max force (n)	50 Hz		50 Hz			
Model				AC 110 V AC 220 V AC 380 V	AC/DC 24 V	AC 110 V AC 220 V AC 380 V 3 phase	AC/DC 24 V	Weight	Remark
TFAX020-05	8	22	500	0.26	0.31	3.85	3.21	2	5# "Z" type hex
TFAX020-10	8	22	1000	0.26	0.31	3.85	3.21	2	wrench operation without Handwheel
TFAX040-18	12	42	1800	0.34	0.41	2.95	2.46	2.8	operation
TFAX040-24	12	42	2400	0.34	0.41	2.95	2.46	2.8	mechanism without

Note:

Note:
 Voltage: AC24V 50 / 60Hz (proportional control type), 220V 50 / 60Hz (floating point control type)
 Ambient temperature: -15 C ~60 C
 Relative humidity: ≤ 90% (25 C, non-condensing)
 Ingress protection: IP54 (Indoor use)

Control mode: Forward or reverse analog signal (proportional type); contact switch control; DDC control
 Analog signal type: 0-10V, 2-10V, 4-20mA input and feedback









		_		_	_		F	ac		ØI	
Model	A	В	C	D	E	Max	Min	ØG	н		
TFAX020-05	166 146	206 240	> 100	161	108	67	45	80	M20×1.5		
TFAX020-10	166 146	206 240	> 100	161	108	67	45	80	M20×1.5	55	45 (Min)
TFAX040-18	205 222	309 325	> 110	194	113	97	55	110	M20×1.5	(Max)(N	
TFAX040-30	205 222	309 325	> 110	194	113	97	55	110	M20×1.5		

Note: Above connection size is the standard configuration. Please contact us for special connection methods.





STANDARD

•EN15714 •GB12476 •JB/T8219 •EN60079 •EN60730 •CSA60079 •GB3836 •UL60079



Complying with ISO 9001, 6 Sigma and virtual board management system, Omeax inspect all actuators in each step of the production process. Collecting all of the production data for further analysis and tracing.

<u>Perfection</u> has always been our ultimate goal <u>Two years</u> warranty is our commitment



SERVICES

Flowinn's professional service team is ready to provide users with comprehensive services and professional technical supports at all time:

- No matter it is by phone, mail or on the site, we are standing by for your inquiry.
- Stable delivery time.
- On-site installation and debugging.
- Regularly follow up our products status and maintenance.
- We provide training for structure knowledge, operation, debugging, maintenance and more.

CUSTOMIZED PRODUCTION

AS TO Omeax, THERE IS NO SUCH THING CALLED IMPOSSIBLE. FOR SPECIAL REQUIREMENTS, WE PROVIDE CUSTOMIZED SOLUTIONS.

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