

LINEAR ELECTRIC ACTUATOR

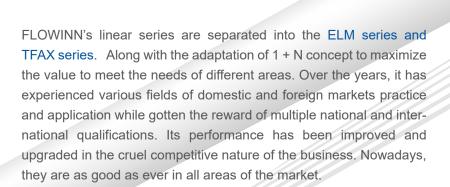


FLOWINN INDUSTRIAL CO., LTD. established itself as a electric actuator manufacturer in 2007. With main focus on the design and development of electric actuator, we have been providing our product and services worldwide. Our quality and technical innovation have contributed to the growing industry recognition 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.

Flowinn is an ISO 9001, ISO 14001 and OHSAS 18001 certified company. Most importantly, Flowinn 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 FLOWINN 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.

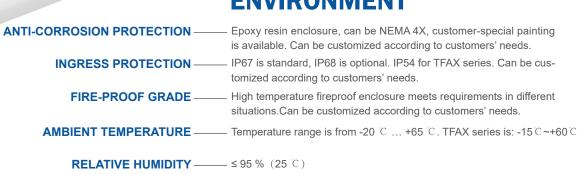
OPERATIONAL DIAGNOSIS

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.





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

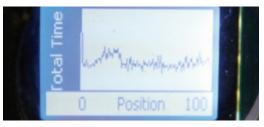
The intelligent type actuator is able to provide different remote control based on different application requirements. Such as portable infrared remote control in ordinary locations and explosion-proof remote control for hazardous locations.



DATA MONITORING VS MANAGEMENT LINEAR

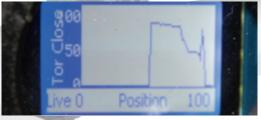
Super intelligent type actuators adopting high-performance microprocessors, real-time collection of valve position, torque and other operational information. Logical calculation truly reflects the operating status. Real-time monitoring & managing data provides references for the actuator maintenance.





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)

	Force ra	ange	ELM010-080series 1000 - 8000 N.m							
Ge			ELM100-250series = 10000 - 25000 N.m ELM010-080series = 60 mm							
ene	Max stro	oke	ELM100-250series 100 mm							
ra	Open/clo	ose time	ELM010-080series • 40 - 122 s							
P	• •		ELM100-250series • 55 - 179 s							
ar	Ambient t	emperature	■ -25 °C … +70 °C							
General Parameters	Anti-vibr	ation level	 JB/T 8219 							
ete	Noise le	evel	Less than 75 dB within 1 m							
rs	Electric	cal interface	 Two PG16 (please contact us for customization if in need of other interface) 							
	1	Destaution								
	Ingress	Protection	 IP67, Optional: IP688: IP68 lis:Depth of water: Maximum 15 m Max (72 hours). 							
		pecifications	 Class F, with thermal protector up to +135 °C (+275 °F) Optional: Class H On-off Type: S2 ~ 15 min, no more than 600 times per hour start 							
	Working	System	 ModulatingType: S4 ~ 50 %, up to 600 triggers per hour 							
Mechanical Parameters	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 FLOWINN for other voltages) 							
ers	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 							
	On/off Type Signal	Feedback	 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 Integrated fault alarm:Power off, motor overheating, 							
		Feedback	 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 Integrated fault alarm:Power off, motor overheating, lack of phase, over torque, broken signal 							
		Feedback	 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 Integrated fault alarm:Power off, motor overheating, lack of phase, over torque, broken signal Input signal:4 - 20 mA; 0 - 10 V; 2 - 10 V 							
		Feedback Malfunction Feedback	 Open 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 Integrated fault alarm:Power off, motor overheating, lack of phase, over torque, broken signal Input signal:4 - 20 mA; 0 - 10 V; 2 - 10 V Input impedance:250 Ω (4 - 20 mA) 							
		Feedback Malfunction Feedback	 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 Integrated fault alarm:Power off, motor overheating, lack of phase, over torque, broken signal Input signal:4 - 20 mA; 0 - 10 V; 2 - 10 V 							
	Modulating Type	Feedback Malfunction Feedback Input Output Signal Reverse	 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 Integrated fault alarm:Power off, motor overheating, lack of phase, over torque, broken signal Input signal:4 - 20 mA; 0 - 10 V; 2 - 10 V Input impedance: ≤ 750 Ω (4 - 20 mA) (Repeatability and linearity within ± 1% of full valve stroke) N/A 							
	Modulating Type	Feedback Malfunction Feedback Input Output Signal Reverse Loss Signal Mode Setting	 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 Integrated fault alarm:Power off, motor overheating, lack of phase, over torque, broken signal Input signal:4 - 20 mA; 0 - 10 V; 2 - 10 V Input impedance: ≤ 750 Ω (4 - 20 mA) Output signal: 4 - 20 mA; 0 - 10 V; 2 - 10 V Output signal: 4 - 20 mA; 0 - 10 V; 2 - 10 V N/A N/A 							
		Feedback Malfunction Feedback Input Output Signal Reverse Loss Signal Mode Setting Dead Zone	 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 Integrated fault alarm:Power off, motor overheating, lack of phase, over torque, broken signal Input signal:4 - 20 mA; 0 - 10 V; 2 - 10 V Input impedance: 250 Ω (4 - 20 mA) Output signal: 4 - 20 mA; 0 - 10 V; 2 - 10 V Output signal: 4 - 20 mA; 0 - 10 V; 2 - 10 V N/A N/A ≤ 1 % 							
	Modulating Type Signal	Feedback Malfunction Feedback Input Output Signal Reverse Loss Signal Mode Setting Dead Zone Time Lag	 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 Integrated fault alarm:Power off, motor overheating, lack of phase, over torque, broken signal Input signal:4 - 20 mA; 0 - 10 V; 2 - 10 V Input impedance:250 Ω (4 - 20 mA) Output signal: 4 - 20 mA; 0 - 10 V; 2 - 10 V 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 N/A ≤ 1 % 							
Cont	Modulating Type Signal Indicatio	Feedback Malfunction Feedback Input Output Signal Reverse Loss Signal Mode Setting Dead Zone Time Lag	 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 Integrated fault alarm:Power off, motor overheating, lack of phase, over torque, broken signal Input signal:4 - 20 mA; 0 - 10 V; 2 - 10 V Input impedance: 250 Ω (4 - 20 mA) Output signal: 4 - 20 mA; 0 - 10 V; 2 - 10 V Output signal: 4 - 20 mA; 0 - 10 V; 2 - 10 V N/A N/A N/A N/A 							
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Control mode	Modulating Type Signal Indicatio Operation Local Con	Feedback Malfunction Feedback Input Output Signal Reverse Loss Signal Mode Setting Dead Zone Time Lag on n Settings	 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 Integrated fault alarm:Power off, motor overheating, lack of phase, over torque, broken signal Input signal: 4 - 20 mA; 0 - 10 V; 2 - 10 V Input impedance: 250 Ω (4 - 20 mA) Output signal: 4 - 20 mA; 0 - 10 V; 2 - 10 V Output signal: 4 - 20 mA; 0 - 10 V; 2 - 10 V N/A N/A Stroke indicator N/A 							
	Modulating Type Signal Indicatio Operation Local Con	Feedback Malfunction Feedback Input Output Signal Reverse Loss Signal Mode Setting Dead Zone Time Lag on n Settings ntrol ently Analyze	 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 Integrated fault alarm:Power off, motor overheating, lack of phase, over torque, broken signal Input signal:4 - 20 mA; 0 - 10 V; 2 - 10 V Input impedance:250 Ω (4 - 20 mA) Output signal: 4 - 20 mA; 0 - 10 V; 2 - 10 V 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 N/A Stroke indicator N/A N/A 							
Control Others	Modulating Type Signal Indicatio Operation Local Con Intellign Data Reco Other Fun	Feedback Malfunction Feedback Input Output Signal Reverse Loss Signal Mode Setting Dead Zone Time Lag on n Settings ntrol ently Analyze	 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 Integrated fault alarm:Power off, motor overheating, lack of phase, over torque, broken signal Input signal:4 - 20 mA; 0 - 10 V; 2 - 10 V Input impedance:250 Ω (4 - 20 mA) Output signal: 4 - 20 mA; 0 - 10 V; 2 - 10 V Output signal: 4 - 20 mA; 0 - 10 V; 2 - 10 V Output signal: 4 - 20 mA; 0 - 10 V; 2 - 10 V N/A 							





ELM 010-080 series Intelligent (|)



ELM 100-250 series Intelligent (I)

Working System Onroff Type: S2 ~ 15 min, nomer than 600 trings per hour start Working System Onroff Type: S2 ~ 15 min, nomer than 600 trings per hour Optional: 1200 times per hour Applicable Voltage Single phase: Voltage (±10 %); Hz (±5 %) 50 Hz (24, 220, 230, 240 Volts) 60 Hz (24, 110, 120, 220, 230, 240 Volts) Bus N/A Bus N/A Input AC 24 auxiliary power input control Opficial Optional: contact FLOWINN for other voltages) Press Signal Close valve contact Open valve contact (contact capacity: 5A @ 250Vac) Peedback Optional: opening torque signal contact (contact capacity: 5A @ 250Vac) Malfunction Input Malfunction Integrated fault signal contact, 4 ~ 20 mk transmit Input Input signal: 4 - 20 mk; 0 - 10 V; 2 - 10 V Upturt impedance: < 750 Q (4 ~ 20 mA) Output Output signal: 4 - 20 mk; 0 - 10 V; 2 - 10 V Upturt impedance: < 750 Q (4 ~ 20 mA) Resetting Signal Reverse Signal Reverse Support Signal Reverse Support Dead Zone 0. 5 ~ 9. % adjustable rate within full stroke Time Lag N/A Indication <	General Parameters	Ambien Anti-v Noise Electr Ingres	roke ose time t temper ibration	ELM10 ELM01 ELM01 ELM01 ELM10 ature level erface tion	 Less than 75 dB within 1 m Two PG16 (please contact us for customization if in need of other interface) IP67, Optional: IP68 The definition of IP68 is:Depth of water: Maximum 15 m under water level.Duration of continuous immersion in water: Max.(72 hours). Class F, with thermal protector up to +135 °C (+275 °F) 					
Applicable Voltage 50 Hz (24, 220, 230, 240 Volts) 60 Hz (24, 110, 120, 220, 230, 240 Volts) DC: 24 V (±10%) (Please contact FLOWINN for other voltages) Bus N/A Input Ac 24 auxiliary power input control Optoelectronic isolation Input Ac 24 auxiliary power input control Optoelectronic isolation Input Close valve contact (contact capacity: 5A @ 250Vac) Optional: Opening torque signal contact Closing torque signal contact, Local/remote signal contact Integrated fault alarm:Power off, motor overheating, Iack of phase, over torque, signal off. ESD beyond protection, terminal output Input Input Input impedance: 250 Q (4 ~ 20 mA) Output Output signal: 4 - 20 mA; 0 - 10 V; 2 - 10 V Input Output impedance: 5750 Q (4 ~ 20 mA) Signal Reverse Support Dead Zone 0.5 ~ 9.9% adjustable rate within full stroke Time Lag N/A Indication LCD screen opening indicator Operation Settings Dead Zone 0.5 ~ 9.9% adjustable rate within full diagnosis, and so on Intelligently Analyze Data Records Other Function Alarm signal (local and remote included) Torque protection Other Function Alarm signal (local and remote control Other Function Mode string Other Function Alarm signal (l		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					
Opford • Optoelectronic isolation • Optoelectronic isolation • Close valve contact • Open valve contact • Signal • Close valve contact • Open valve contact • Optional: Opening torque signal contact • Optional: Opening torque signal contact • Optional: Opening torque signal contact • Optional: Opening torque signal contact • Ocoal/remote signal contact • Output signal contact • Output transmit • Input • Integrated fault alarm:Power off, motor overheating, lack of phase, over torque, signal output • Input signal: 4 - 20 mA; 0 - 10 V; 2 - 10 V • Input • Input signal: 4 - 20 mA; 0 - 10 V; 2 - 10 V • Output signal: 4 - 20 mA; 0 - 10 V; 2 - 10 V • Output • Output signal: 4 - 20 mA; 0 - 10 V; 2 - 10 V • Output impedance: ≤ 750 Ω (4 ~ 20 mA) • Output • Output impedance: ≤ 750 Ω (4 ~ 20 mA) • Output signal * Support • Mode Setting • Support • Support • Decal Zone • 0.5 ~ 9.9% adjustable rate within full stroke • Time Lag • N/A • Indication • LCD screen opening the cover • Occal Control • Supports signal selection, status indication, fault diagnosis, and so on • Other Function • Alarm signal (local and remote included)		Applic	able Vol	tage	50 Hz (24, 220, 230, 240 Volts) 60 Hz (24, 110, 120, 220, 230, 240 Volts) • DC: 24 V (±10 %)					
Opford • Optoelectronic isolation • Optoelectronic isolation • Close valve contact • Open valve contact • Signal • Close valve contact • Open valve contact • Optional: Opening torque signal contact • Optional: Opening torque signal contact • Optional: Opening torque signal contact • Optional: Opening torque signal contact • Ocoal/remote signal contact • Output signal contact • Output transmit • Input • Integrated fault alarm:Power off, motor overheating, lack of phase, over torque, signal output • Input signal: 4 - 20 mA; 0 - 10 V; 2 - 10 V • Input • Input signal: 4 - 20 mA; 0 - 10 V; 2 - 10 V • Output signal: 4 - 20 mA; 0 - 10 V; 2 - 10 V • Output • Output signal: 4 - 20 mA; 0 - 10 V; 2 - 10 V • Output impedance: ≤ 750 Ω (4 ~ 20 mA) • Output • Output impedance: ≤ 750 Ω (4 ~ 20 mA) • Output signal * Support • Mode Setting • Support • Support • Decal Zone • 0.5 ~ 9.9% adjustable rate within full stroke • Time Lag • N/A • Indication • LCD screen opening the cover • Occal Control • Supports signal selection, status indication, fault diagnosis, and so on • Other Function • Alarm signal (local and remote included)	Imet	Bus			• N/A					
Feedback Feedback Feedback Feedback Feedback Feedback Input Input signal: 4 - 20 mA; 0 - 10 V; 2 - 10 V Input Input impedance: 250 Ω (4 ~ 20 mA) 0utput Output signal: 4 - 20 mA; 0 - 10 V; 2 - 10 V 0utput Output signal: 4 - 20 mA; 0 - 10 V; 2 - 10 V 0utput Output signal: 4 - 20 mA; 0 - 10 V; 2 - 10 V 0utput Output impedance: ≤ 750 Ω (4 ~ 20 mA) (Repeatability and linearity within ± 1% of full valve stroke) Signal Reverse Support Dead Zone 0.5 ~ 9.9% adjustable rate within full stroke Time Lag N/A Indication LCD screen opening indicator Operation Settings Settings done opening the cover Local Control Supports signal selection, status indication, fault diagnosis, and so on Intelligently Analyze N/A Other Function Alarm signal (local and remote included) Torque protection Motor overheat protection Motor overheat protection Motor overheat protection Other Function Infrared remote control Other Function Other remote control	ers	On/off Type Si	Input		- · · ·					
Feedback Feedback Feedback Feedback Feedback Feedback Input Input signal: 4 - 20 mA; 0 - 10 V; 2 - 10 V Input Input impedance: 250 Ω (4 ~ 20 mA) 0utput Output signal: 4 - 20 mA; 0 - 10 V; 2 - 10 V 0utput Output signal: 4 - 20 mA; 0 - 10 V; 2 - 10 V 0utput Output signal: 4 - 20 mA; 0 - 10 V; 2 - 10 V 0utput Output impedance: ≤ 750 Ω (4 ~ 20 mA) (Repeatability and linearity within ± 1% of full valve stroke) Signal Reverse Support Dead Zone 0.5 ~ 9.9% adjustable rate within full stroke Time Lag N/A Indication LCD screen opening indicator Operation Settings Settings done opening the cover Local Control Supports signal selection, status indication, fault diagnosis, and so on Intelligently Analyze N/A Other Function Alarm signal (local and remote included) Torque protection Motor overheat protection Motor overheat protection Motor overheat protection Other Function Infrared remote control Other Function Other remote control			-	k	(contact capacity: 5A @ 250Vac) Optional: Opening torque signal contact Closing torque signal contact , Local/remote signal contact					
 Input impedance: 250 Ω (4 ~ 20 mA) 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) Signal Reverse Support Support Dead Zone 0.5 ~ 9.9% adjustable rate within full stroke Time Lag N/A Indication LCD screen opening indicator Operation Settings Settings done opening the cover Local Control Supports signal selection, status indication, fault diagnosis, and so on N/A Alarm signal (local and remote included) Torque protection Motor overheat protection Motor overheat		gnal			lack of phase, over torque, signal off,					
Time Lag • N/A Indication • LCD screen opening indicator Operation Settings • Settings done opening the cover Local Control • Supports signal selection, status indication, fault diagnosis, and so on Intelligently Analyze • N/A Data Records • Alarm signal (local and remote included) • Torque protection • Motor overheat protection • Motor overheat protection • Moisture-resistant heaters (anti-moisture device) • Infrared remote control • Optional: Infrared remote control		Modula	Input		 Input signal: 4 - 20 mA; 0 - 10 V; 2 - 10 V Input impedance: 250 Ω (4 ~ 20 mA) 					
Time Lag • N/A Indication • LCD screen opening indicator Operation Settings • Settings done opening the cover Local Control • Supports signal selection, status indication, fault diagnosis, and so on Intelligently Analyze • N/A Data Records • Alarm signal (local and remote included) • Torque protection • Motor overheat protection • Motor overheat protection • Moisture-resistant heaters (anti-moisture device) • Infrared remote control • Optional: Infrared remote control		ating Typ	Output		• Output impedance: \leqslant 750 Ω (4 $$ 20 mA)					
Office Indication • LCD screen opening indicator Operation Settings • Settings done opening the cover Local Control • Supports signal selection, status indication, fault diagnosis, and so on Intelligently Analyze • N/A Data Records • Alarm signal (local and remote included) Other Function • Mois ture-resistant heaters (anti-moisture device) • Infrared remote control • Optional: Infrared remote control		e Signal	Loss Sig Mode Set Dead Zon	nal ting N C	 Support 0.5 ~ 9.9% adjustable rate within full stroke 					
 Local Control Intelligently Analyze Data Records Other Function Other Function Supports signal selection, status indication, fault diagnosis, and so on N/A Alarm signal (local and remote included) Torque protection Motor overheat protection Moisture-resistant heaters (anti-moisture device) Infrared remote control Optional: Infrared remote control 	■ ○	Latra		g						
 Local Control Intelligently Analyze Data Records Other Function Other Function Supports signal selection, status indication, fault diagnosis, and so on N/A Alarm signal (local and remote included) Torque protection Motor overheat protection Moisture-resistant heaters (anti-moisture device) Infrared remote control Optional: Infrared remote control)ontr			ings						
Data Records Alarm signal (local and remote included) Torque protection Motor overheat protection Motor overheat protection Moisture-resistant heaters (anti-moisture device) Infrared remote control Optional: Infrared remote control	0	Local	Control		• Supports signal selection, status indication, fault diagnosis, and so on					
Optional accessories 🔿 Flange 🔿 Independent wiring box 🔿 Remote control	Others	Data Re	ecords		 Alarm signal (local and remote included) Torque protection Motor overheat protection Moisture-resistant heaters (anti-moisture device) Infrared remote control 					
		Option:	al acces	sories	○ Flange ○ Independent wiring box ○ Remote control					



	Ger	Force	range	ELM	1100-250series	•	10000 - 25000 N.m			
	General P	Max st	roke	ELM	1100-250series	•	100 mm			
		Open/close time ELM		ELM	M100-250series • 55 - 179 s					
	Paramete	Ambient	Ambient temperature		■ -25 °C … +70 °C					
- 24.94	net	Anti-vibration level		el						
	ers	Noise	ical interfa	Ce	 Less than 75 dB within 1 m Two DC16 (close controls for the first formation formation for the first formation formation formation formation formation formation formation fo					
U U					 Two PG16 (please contact us for customization if in need of other interface) IP67, Optional: IP68 The definition of IP68 is:Depth of water: Maximum 15 m under water level.Duration of continuous immersion in water: Max.(72 hours). 					
		Motor Specifications					protector up to +135 °C (+275 °F) Optional: Class H			
ELM 100-250 series Super Intelligent (S)		Worki	ng System		 Modulating type 	: S4	15min, no more than 600 times per hour start 4 ~ 50%, up to 600 triggers per hour 1800 times per hour			
	Mechanical	Applicable Volta			 Single phase: Voltage (±10 %); Hz (±5 %) 50 Hz (24, 220, 230, 240 Volts) 					
		Bus	Bus		Modbus					
	Par		Input		20 [~] 60VAC/DCor6	50 ^	~ 120VAC ■ Optoelectronic isolation			
	ame	On∕off			 Relay X 5(4 can be set to "constant open" or 					
	Parameters	Туре	Signal Feedback		 "constant close" contacts. 1 integrated fault cont. 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 					
		Signal	Malfunction Feedback		 Torque protection • Motor overheat protection • Jammed valve protection • Instantaneous reverse protection • Broken signal protection • Other alarms 					
					Modulating	Input	1	(the input signal of Accuracy: (1%) Dead zone: 0	can I) ~ 25	\sim 20 mA; 0 \sim 10 V; 2 \sim 10 V be arbitrarily corresponding to the valve position) 5.5% adjustable rate in full stroke 75 Ω (4 \sim 20 mA)
		ng Type	Output	1	 Output signal: 4 ~ 20 mA;0 ~ 10 V; 2 ~ 10 V Output impedance: ≤750 Ω (4 ~ 20mA) (Repeatability and linearity within ± 1% of full valve stroke 					
		S S	Signal Reverse Loss Signal Mode Setting Dead Zone Time Lag							
		gnal			 Support 0~25,5% adjust 	tab	le rate within full stroke			
					• 0 - 25.5 s (Ad					
	Control	Indication			 LCD screen opening indicator On/off/remote control/fault indicator (Digital displation of the opening percentage and torque percentage) 					
	l mode	Operation Settings		 Settings done without opening cover (menu settings by the remote 						
	de	Local	Control		 Non-intrusive local control knob: Open/close/stop Non-intrusive local control knob: Local/remote/prohibit 					
	Others	Intelligently Analyze Data Records		ze	 Use infrared remote control to conduct fault diagnosis analysis on the display Use two-way remote control to achieve fast and safe nonintrusive communication and data exchange. Able to analyze the actuator data and given recommendations 					
		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 Operation 1: Two-way remote control Optional: Explosion-proof infrared remote control 					
		Optional accessories) Flange O Independent wiring box O Remote control								

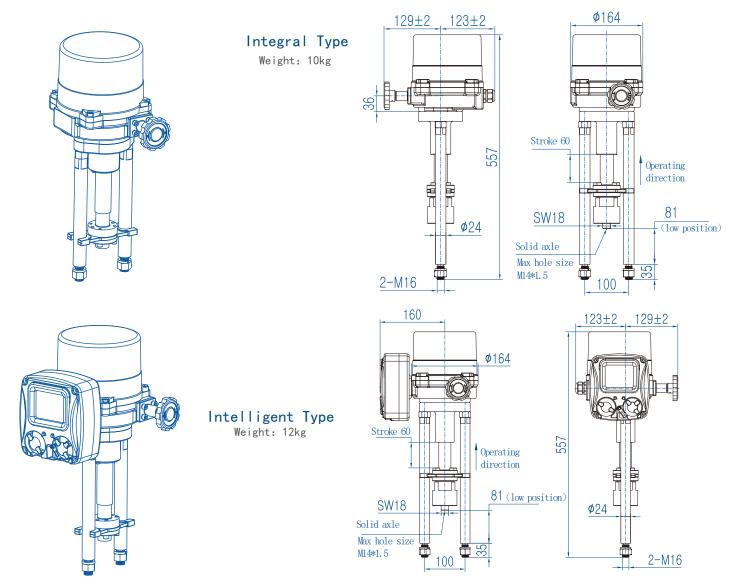
100

EAR REGULAR 080 SERIES

				Stroke spe	ed (s/mm)	Stroke sp	eed (mm/s)	
Model	Power (w)	Max stroke	Max force	50 Hz		50 Hz		Remark
Widdel		(mm)	(n)	AC 110 V AC 220 V	AC/DC 24V	AC 110 V AC 220 V	AC/DC 24 V	(mm/s)
ELM010	10	60	1000	0.83	0.64	1. 20	1.56	Hendwheel energy ion
ELM020	10	60	2000	0.83	0.64	1.20	1.56	Handwheel operation Manual/electric
ELMO40	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

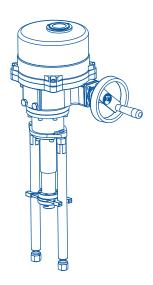
				Stroke spe	ed (s/mm)	Stroke sp		
Model	Power (w)	Max stroke (mm)	Max force (n)	50 Hz AC 110 V AC 220 V	AC/DC 24 V	50 Hz AC 110 V AC 220 V	AC/DC 24 V	Remark (mm/s)
ELM100	40	100	10000	1.08	0.9	0. 93	1, 11	Handwheel
ELM200	40	100	20000	1.79	1.49	0.56	0.67	operation Planetary gear
ELM250	40	100	25000	1.79	1.49	0.56	0.67	without clutch

Note

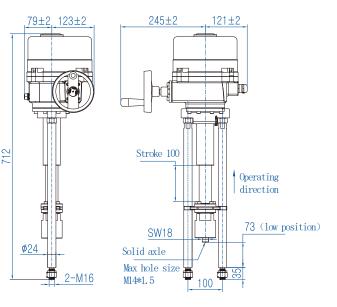
1. The rated output of the actuator is 0.75 times the maximum force.

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

LINEAR REGULAR 250 SERIES



Integral Type Weight: 16kg

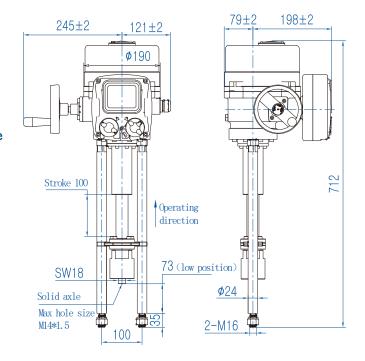


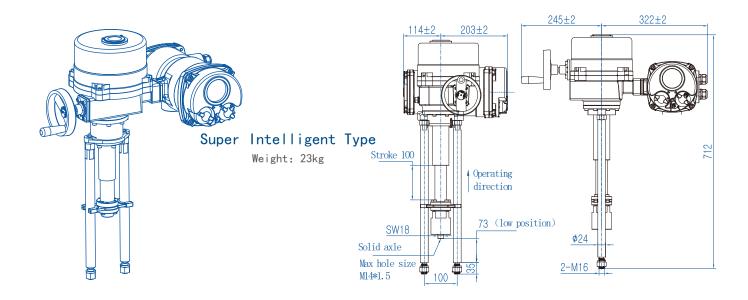
LINEAR REGULAR 250 SERIES



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 INEARHVAC SERIES Stroke speed (s/mm)

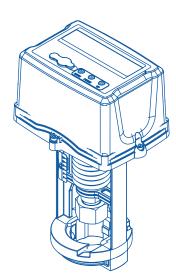
				Stroke spe	eed (s/mm)	Stroke spe	ed (mm/s)		
	Power	May stroke	Max force	50 Hz		50 Hz			
Model	(W)	(mm)	(n)	AC 110 V AC 220 V AC 380 V	AC/DC 24 V	AC 110 V AC 220 V AC 380 V 3 phase	AC/DC 24 V	Weight	Remark
TFAX020-05	8	22	500	0.26	0.31	3.85	3.21	2	5# "Z" type hex
TFAX020-10	8	22	1000	0.26	0.31	3.85	3.21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

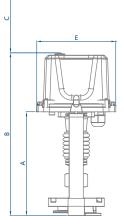
Note:

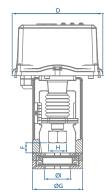
Note:
 Voltage: AC24V 50 / 60Hz (proportional control type), 220V 50 / 60Hz (floating point control type)
 Ambient temperature: -15 C ~60 C
 Relative humidity: ≤ 90% (25 C, non-condensing)
 Ingress protection: IP54 (Indoor use)

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

DIMENSION HVAC SERIESLINEAR

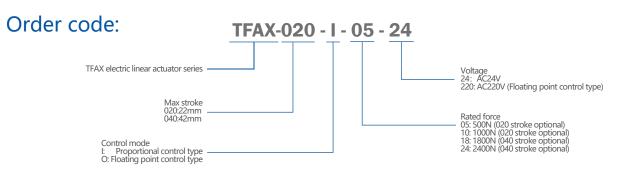






							F	ØG	Н	ØI	
Model	A	В	C	D	E	Max	Min				
	166	206	> 100	161	100	67	45	80	M20×1.5		
TFAX020-05	146	240	> 100	161	108	07	40	00	IVI20×1.5		
TEAV020 10	166	206	> 100	4.64	1.61 1.00	67	45	00	M20.1 F		
TFAX020-10	146	240		161	108	67		80	M20×1.5	55 45	
TEAV040 10	205	309	110	101	440	07		110	N400 1 F	(Max)(Min)	
TFAX040-18	222	325	> 110	194	113	97	55	110	M20×1.5	(
TFAX040-30	205	309	110	101	440	07	E E	110	N400 1 F		
1174/040-30	222	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, Flowinn 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 Two years 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 FLOWINN, THERE IS NO SUCH THING CALLED IMPOSSIBLE.

FOR SPECIAL REQUIREMENTS, WE PROVIDE CUSTOMIZED SOLUTIONS.

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Taiwan Factory :

No.14, Lane 178, Sec.1, Pingdong Rd., Pingzhen Dist., Taoyuan City , Taiwan TEL:+886 3 450 5616

Shanghai Factory :

Building II, No. 598, Kesheng Rd., Nanxiang Town, Jiading District, Shanghai, China. TEL:+86 21 5107 8661

Website:

www.flowinn.com / www.flowinn.com.tw

E-mail: marketing@flowinn.com