



EMT / EMD Series

Multi-turn Electric Actuator



Reliable Performance.
Precision Control.
Built to Last.

PRODUCT CATALOG

2024 / 2025



Trusted
for over



Precise
Control



Robust
Design



Built for
Durability



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Product Overview

The multi-turn electric actuator is an actuator with an output angle greater than 360°. It is suitable for valves with multi-turn stroke for linear travel, such as gate valves, globe valves, regulating valves and others. It can also pair with 90° gearbox to achieve quarter turn travel for valves such as butterfly valves, ball valves, plug valves and others.

Multi-turn electric actuators come with two series: EMT and EMD. Depend on different application the two series can be applied selectively. These two series of products are divided into three types: basic type, integration type and intelligent type according to different functional configurations.

- EMT Series - High torque and speed combination, for large diameter of valves.
- Explosion proof type available.



BASIC



INTEGRATION



INTELLIGENT

- EMD Series - For standard control operation.



BASIC



INTEGRATION



INTELLIGENT

Product Features

Motor Protection



F class insulated motor. two temperature control switch designed to prevent over heat. Class H motor can be customized.

Anti Moisture Protection



Put anti moisture resistance to protect internal electronics from condensation.

Safe Manual Override



Manual override clutch to disengage motor and enables manual operation of the actuator.

Infrared Remote Control



Integration and Intelligent series provide different type of infrared remote control according to various requirement.

Absolute Encoder



24 bits absolute encoder can record up to 1024 positions. This enables precise record of position even in lost power mode. Available on Integration and Intelligent type.

High Strength Worm Gear and Worm Shaft



High strength alloy worm shaft and gear for long durability. The meshing between worm shaft and gear had been specifically examined to ensure maximum efficiency.

High RPM output



High RPM enables applications on large diameter valves. EMD 18-144rpm, EMT 18-192rpm.

Non-Intrusive set up



Integration and Intelligent type can be set up by remote control. They also come with LCD display and local control button / knobs for easy access. Valve position can be set without opening actuator mechanically.

Performance Processor



Intelligent type adopts high performance micro processor, which enables efficient and reliable monitoring of valve position/torque and operational status.

EMT Series



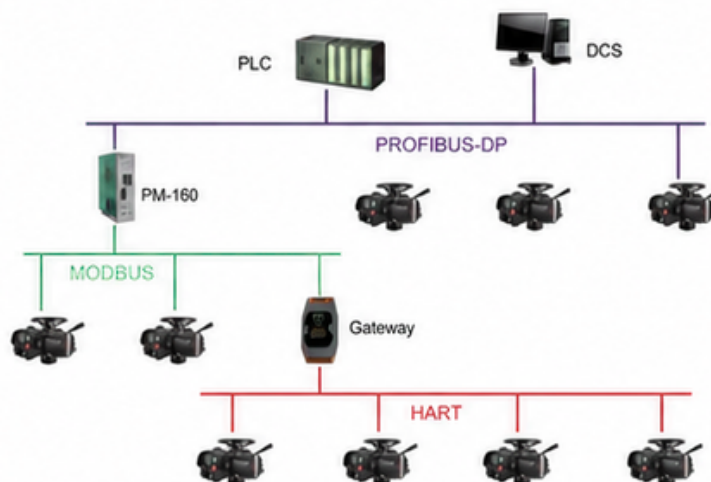
► Communication Field Bus

The configuration and composition of the electric actuator field bus control system are flexible and changeable, with strong applicability and expansion functions, and can effectively solve on-site problems related to interference noise, control distance, contact capacity and working environment. The field bus control system generally consists of the main control station, the communication loop and the field unit. The communication protocols currently supported by EMT series multi-turn electric actuators include Modbus, Profibus-DP, HART, etc.

Modbus

PROFIBUS

HART
COMMUNICATION PROTOCOL



EMT Series

		BASIC	INTEGRATION	INTELLIGENT
Control	On-Off	✓	✓	✓
	Modulating	—	—	✓
Protection	Standard IP67, IP68 optional	✓	✓	✓
Display	Mechanical arrow indicator	✓	—	✓
	Open/Close/Remote/Fault indicator lamp	—	✓	✓
	LCD digital position percentage display	—	✓	✓
	LCD digital torque percentage display	—	—	✓
Position Limit	Registering gear	✓	—	—
	Absolute encoder	—	✓	✓
Local Control	Open/Stop/Close button, Local/Remote/Off	—	✓	✓
	Remote control	—	✓	✓
Protection	Over torque	✓	✓	✓
	Motor over heat	✓	✓	✓
	Valve stall	—	✓	✓
	Loss signal	—	—	✓
	Reverse starter	—	✓	✓
	Loss phase (3 phase only)	—	✓	✓
	Auto phase correction (3 phase only)	—	✓	✓
	Non intrusive set up	—	✓	✓
	Operational data log	—	—	✓
	Password	—	✓	✓
Feedback Signal	Anti condensation (Heater)	Optional	✓	✓
	Open and close position limit, open and close torque switch, position feedback potentiometer	✓	—	—
	1 * Collective fault feedback, 5 * programable feedback contacts (Contact capacity 5A@250Vac)	—	✓	—
Control Signal	Expansion feedback contacts (Contact capacity 5A@250Vac)	—	—	✓
	On-Off switch signal	✓	✓	✓
Fieldbus	Analogue signal (4-20mA, 0-10V, 2-10V)	—	—	✓
	Modbus, Profibus, HART	—	—	✓
Other	Non intrusive position limit set up	—	✓	✓
	Torque limit set up	—	—	✓
	Set up of: Deadzone, Reverse signal, Loss signal mode, (0%, 100%, keep): Feedback contacts, ESD (0%, 100%, Keep): Power loss display,	—	—	✓

		BASIC	INTEGRATION	INTELLIGENT
Torque Range		35-3000N·m		
Speed	50Hz	18、24、36、48、72rpm	18、24、36、48、72、96、144、192rpm	
	60Hz	21、29、43、57、86rpm	21、29、43、57、86、115、173、230rpm	
Ambient Temperature		-30℃~70℃、Optional -40℃~+60℃、-60℃~60℃		
Noise		≤ 75dB (Within 1 meter)		
Cable Entries		2 x NPT3/4、1 x NPT1 1/2		
Ingress Protection		IP67、Optional IP68 (7 meter under water for up to 72 hours)		
Mounting		ISO5210 (Rising type or non-rising type)		
Motor		Motor protection: Class F insulation, equipped with double temperature control protector, protection temperature 135℃		
Duty Cycle	On-Off	S2~15min (600 starts per hour)		
	Modulating	—	S4~25% (600 starts per hour)	
Standard Voltage (Other voltages can be customized)		3 phase 4 wires: 3 phase 380VAC (±10%) 50Hz/60Hz(±5%) Optional: 1 phase 220VAC (±10%)	3 phase 3 wires: 3 phase 380VAC (±10%) 50Hz/60Hz(±5%) Optional: 1 phase 220VAC (±10%)	
Input Signal	On-Off	Built in contacts 5A@250Vac	AC/DC 24V input: AC110/220V (optional); optical signal isolation	20-60V AC/DC or 60-120V AC, optical signal isolation
	Modulating	—	—	Input signal: 4~20 mA, 0~10 V; 2~10 V Accuracy: (1 %); Dead zone: 0~2.55 % adjustable around 1.5 % Input impedance: 1.5 kΩ(20 mA) Dead zone: 0~250% adjustable Timing: 0~250% adjustable
Feedback Signal	On-Off	• Opening stroke limit, closing choke limit • Opening over torque, closing over torque • Flash signaling(uncategorized, 5A, 250 V ac) Optional: Semiconducting bypass/isolation track potentiometer • Optional: 4~20 mA transmission	• Local/remote contacts • Integrated fault contact • Close the valve contact • Open the valve contact (contact capacity: 5 A, at 250 V ac) • Optional: Opening torque signal contact Closing torque signal contact	Relay*: 5 (4 can be set to "normally open" or "natural closed" contacts, 1 integrated fault contact) A. Single or multi-pulse close B. Control circuit power failure C. Selection switch is in local or the off position D. Motor temperature protector trip
	Modulating	—	—	Input 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)
Fault Signal	On-Off	• Integrated fault alarm: Motor overheating, over torque contacts • Optional: Phase protection contact	Collective fault alarm: Power off, motor overheating, lose phase, over torque, lose signal, ESD	• Phase condition • Torque switch • Thermal protection • Jammed valve protection • Lose signal protection • Instantaneous reverse protection
	Modulating	—	—	Signal Reverse, Loss signal setting.
Position Display		Mechanical arrow indicator		• LCD screen display • Full open/Full close/remote / fault indicator

Note: for explosion proof, temperature range should refer to the certificate of different region.
Single-phase applies only to EMT1-3 series

EMT - 3 Phase voltage ON-OFF Control

Model	Speed (rpm)		Torque (N·m)	Max. Stem Diameter(mm)	
	50Hz	60Hz		A type	B type
EMT11	18	21	35	Φ29	Φ22
	24	29	35		
	36	43	35		
	48	57	35		
	72	86	35		
	96	115	35		
	*144	*173	30		
	*192	*230	25		
EMT12	18	21	80	Φ29	Φ22
	24	29	80		
	36	43	80		
	48	57	70		
	72	86	50		
	96	115	40		
	*144	*173	35		
	*192	*230	30		
EMT13	18	21	105	Φ29	Φ22
	24	29	105		
	36	43	100		
	48	57	90		
	72	86	60		
	96	115	50		
	*144	*173	40		
	*192	*230	35		
EMT21	18	21	200	Φ43	Φ32
	24	29	200		
	36	43	200		
	48	57	200		
	72	86	170		
	96	115	150		
	*144	*173	100		
	*192	*230	60		
EMT22	18	21	300	Φ43	Φ32
	24	29	300		
	36	43	250		
	48	57	220		
	72	86	200		
	96	115	170		
	*144	*173	120		
	*192	*230	80		
EMT23	18	21	400	Φ43	Φ32
	24	29	400		
	36	43	300		
	48	57	250		
	72	86	250		
	96	115	230		
	*144	*173	150		
	*192	*230	90		