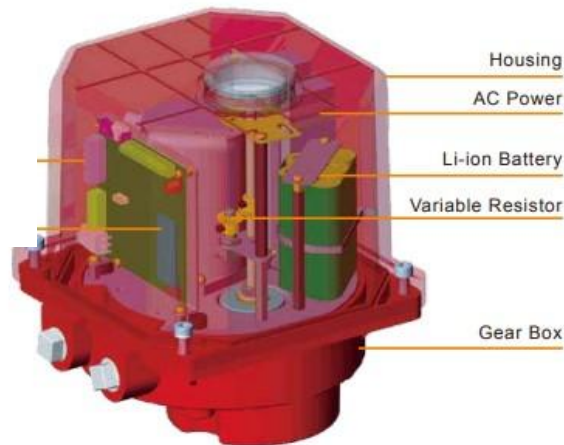


Product Features

SMART TYPE



UM1-N~UM2-7-N



UM3-N



UM3-1-N~UM6-N



UM8-N~UM11-N



UM12-N



Modular Design

- Plug & Play Kit are easy to add or repair functions.
- AC Power Modular, Failsafe Modular are available.

Li-ion Battery

(two function optional)

- Failsafe function
- Backup power

Brushless DC Motor

- High duty cycle performance

LED Light Indicator

- show the status of the valve

High Duty Cycle

- 30% for ON/OFF function
- 75% for modulating function

Multi-Voltage

- AC110V~AC220V, DC24V

SUPPORT Modbus-ASCII with RS-485 (EIA-485)

- Supports control of 2 to 30 actuators via Modbus ASCII with RS-485, either in sync or out of sync.
- No need to connect to I/O adopters.
- Designed to avoid electromagnetic interference.

Quarter-Turn Smart Type Electric Actuator UM-N Series

Product feature	Specification	UM1-N~UM2-N	UM3-N~UM6-N
Power Supply	DC24V	●	●
	AC110V~AC220V (Optional)	●	●
Max.-Min. Torque	8~70Nm	●	
	25~608Nm		●
Mounting Interface	ISO 5211	●	●
Control Interfaces	ON / OFF	●	●
	Modulating 4-20mA or 2~10V (Optional)	●	●
Rated Torque	75%	●	●
Duty Cycle	30%~75%	●	●
Fail-Safe	≥ 1 One Time (Optional)	Remark 1	●
Ambient Temperature	-10°C ~ +60°C	●	●
IP Rating	IP67 1M 30 Min	●	●
	IP68 exceed 1M 30 Min (Optional)	●	●
Certifications Approval	CSA139-13	●	●
Voltage free signal feedback	Max 100 (mA) (standard)	●	●
Heater	5W (Optional)	●	●

Remark 1: The actuator needs an external box for fail-safe function.

Remark 2: All items are not available for vacuum, corrosion, flammable and explosion environment.

Features

- Brushless DC motor designed for long-term operation.
- Motor insulation: Class F
- Electromagnetic Compatibility: Complies with EMC certification.
- For emergency use, the actuator includes a manual override (UM1-N to UM3-N) or handwheel (UM3-1-N to UM-6-N).
- Fieldbus protocols are supported, such as Modbus-ASCII.
- Protective features: Overload, dual-limit position, valve jam, self-lock mechanism, and speed control.
- Short speed time available as an option.
- Ambient temperature: -10 to +60°C (Humidity <90% at +25°C).
- The failsafe function is based on a modular design, allowing for easy replacement. (UM1-N to UM2-N requires an external box for the failsafe function.)
- The standard duty cycle is S2 15minutes, for other duty cycles please contact us.

Quarter-Turn Smart Type Electric Actuator UM-N Series

Product feature	Specification	UM8-N~UM11-N	UM12-N
Power Supply	DC24V	●	●
	AC110V~AC220V (Optional)	●	●
Max.-Min. Torque	825~1125Nm	●	
	2500Nm		●
Mounting Interface	ISO 5211	●	●
Control Interfaces	ON / OFF	●	●
	Modulating 4-20mA or 2~10V (Optional)	●	●
Rated Torque	75%	●	●
Duty Cycle	30%~75%	●	●
Fail-Safe	≥ 1 One Time (Optional)	Remark 1	●
Ambient Temperature	$-10^{\circ}\text{C} \leq T_a \leq 60^{\circ}\text{C}$	●	●
IP Rating	IP67 1M 30 Min	●	●
	IP68 10M 72 Hour (Optional)	●	●
Voltage free signal feedback	Max 100 (mA) (standard)	●	●
Heater	5W (Optional)	●	●

Remark 1: The actuator needs an external box for fail-safe function.

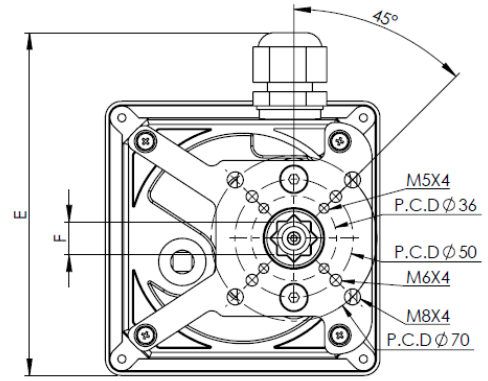
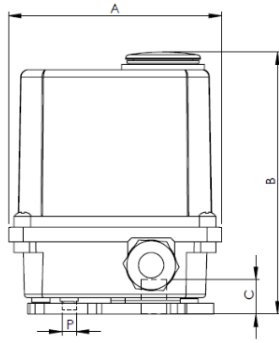
Remark 2: Not available for vacuum, corrosion, flammable and explosion environment.

Features

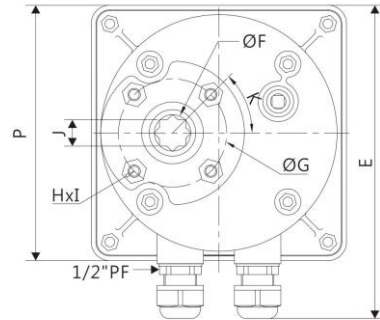
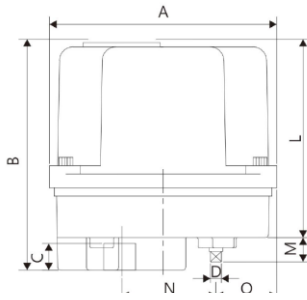
- Power saving and low noise: DC motor, compact size, and designed for long-term operation.
- Motor insulation: Class F
- Electromagnetic compatibility: The circuit meets EMC certificate requirements.
- For emergency use, the actuator is equipped with a handwheel.
- Fieldbus protocol options include Modbus-ASCII.
- Protective features: Overload, dual-limit position, valve jam, mechanical lock, and speed control.
- Short speed time available as an option.
- Ambient temperature: $-10 \leq T_a \leq 60^{\circ}\text{C}$ (Humidity < 90% at 25°C); $-20 \leq T_a \leq 70^{\circ}\text{C}$ (optional).
- The failsafe function is designed with a modular system for easy replacement.
- The standard duty cycle is S2 for 15 minutes. For other duty cycles, please contact us.

Specification and outline drawing:

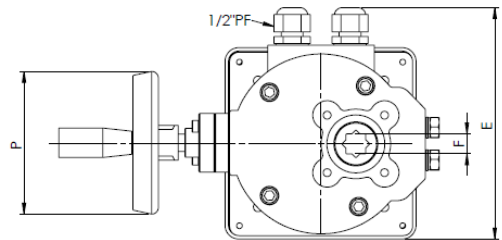
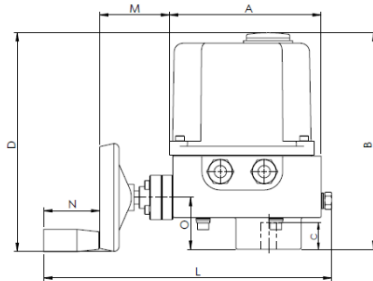
UM1-N~UM2-N



UM3-N



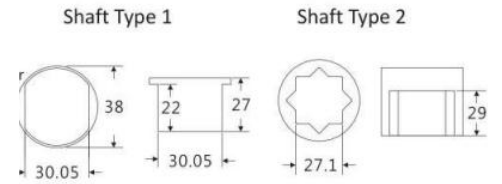
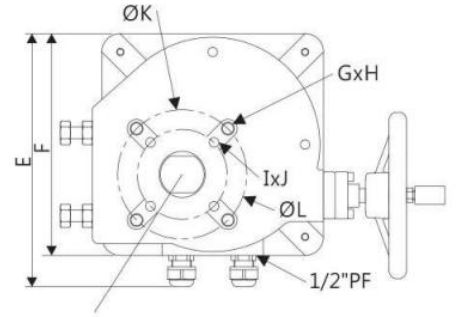
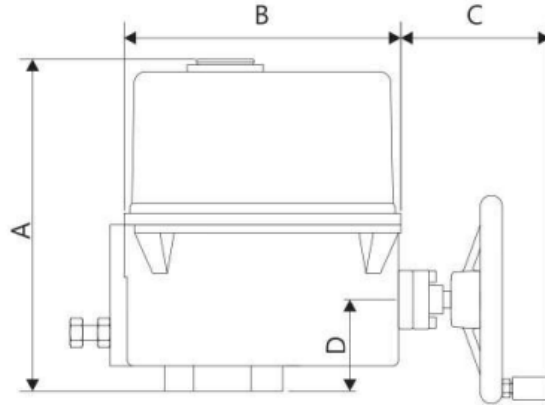
UM3-1-N~UM6N



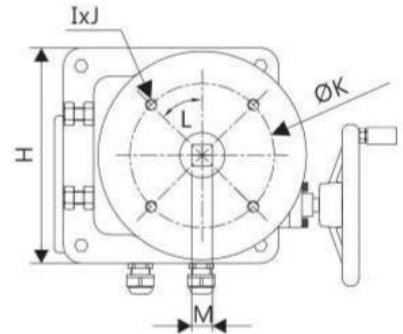
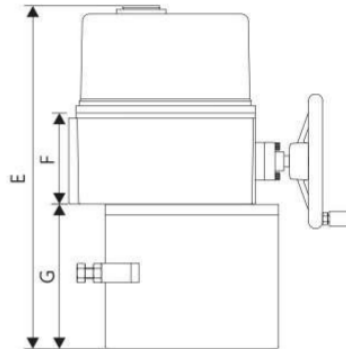
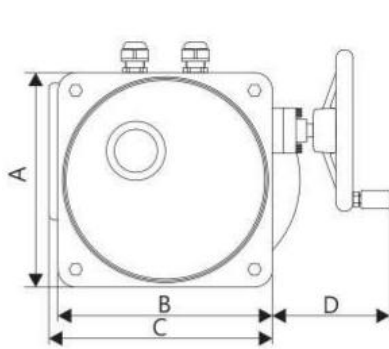
Model	Rated Torque (Nm)	Consumption(W)		0~90° (Sec)	Dimension (mm)										
		AC110V	DC24V		A	B	C	D	E	F	L	M	N	O	P
		AC220V													
UM1-N	6	23	22	3	118	145	19	-	140	14	-	-	-	-	8
	16	13	11	8											
	27			14											
UM2-5-N	35	16	15	15											
UM2-7-N	50	20	19	17											
UM3-N	25	90	80	2	165	172	20	8	203	23.5	148	17.3	68.4	44.2	165
UM3-1-N	115	65	60	8	173	244	30	250	203	17	330	85	65	59	123
UM4-N	250	45	38	30	173	270	30	250	203	22	330	85	65	85	123
UM5-N	365	55	48	33	173	276	34	250	203	27	330	85	65	92	123
UM6-N	456	85	82	26											

Specification and outline drawing:

UM8-N~UM11-N



UM12-N

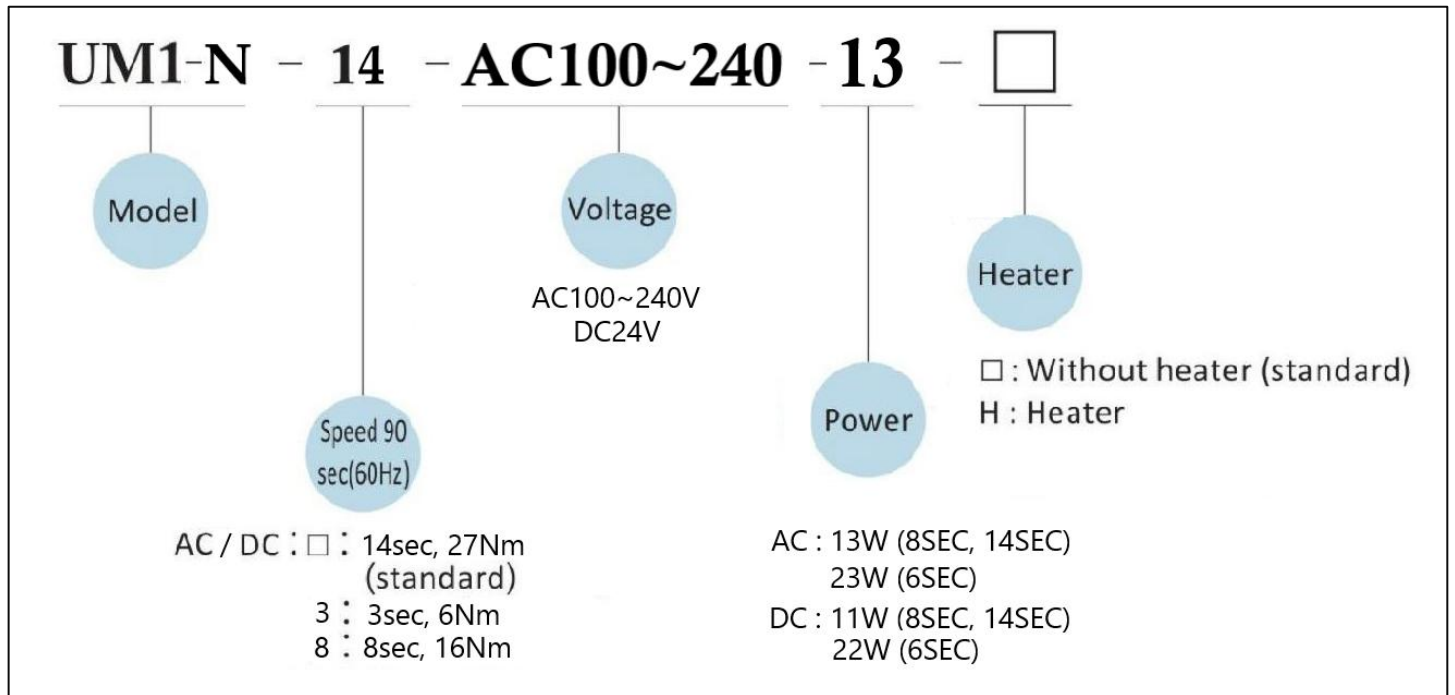


Model	Rated Torque (Nm)	Consumption(W)		0~90° (Sec)	Dimension (mm)												
		AC110V AC220V	DC24V		A	B	C	D	E	F	G	H	I	J	K	L	M
UM8-N	825	100	96	32	289	240	132	80	275	240	M16	4	M10	4	102	140	-
UM10-N	1013	95	92	43													
UM11-N	1125	93	90	50													
UM12-N	2500	100	95	90	240	240	250	132	475	123	194	240	M20	4	165	45°	27.1~36.1

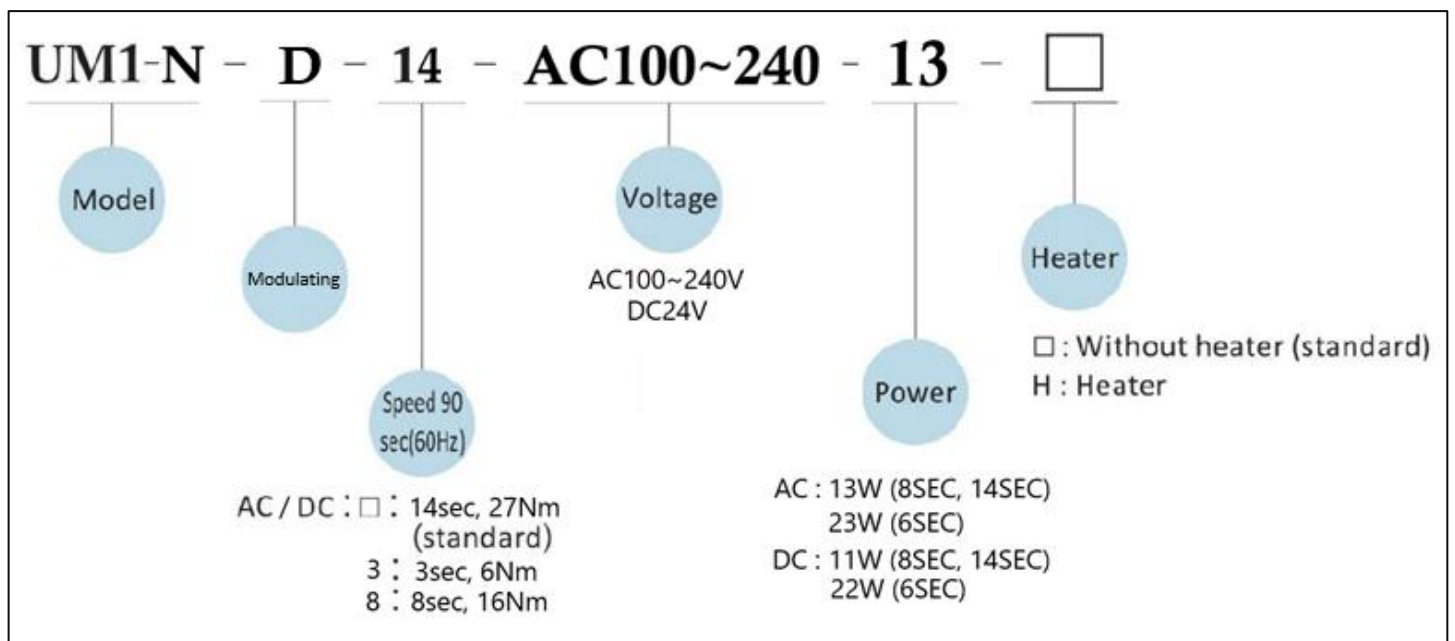
Model	ISO5211 mounting
UM8-N	F10/F14
UM10-N	F10/F14
UM11-N	F10/F14
UM12-N	F16

EXMAPLE OF PRODUCTS CODE.:

ON / OFF TYPE



MODULATING TYPE



Simple Instruction of smart type electric actuators

1. Product Introduction

90-degree rotary electric actuators UM1-N to UM12-N are designed to control quarter-turn valves, such as ball valves, butterfly valves, dampers, etc. Features include:

- a. ISO 5211 mounting dimensions.
- b. Mechanical position indicator with green and red LED lights to indicate the valve's open or closed position.
- c. Modulating function with 75% duty cycle.

2. Product Characteristics

- **Modular Design**

The Plug & Play kit makes it easy to add or repair functions, such as power modular or failsafe.

- **Multi-Voltage: AC100~240V or DC24V.**

- **Voltage-Free Signal Feedback**

- **Feedback signal for valve status (open or close), AC260V/100mA.**

- **Enclosure:**

IP67 waterproof and dustproof nylon enclosure that protects against heat, acid, and alkali. Aluminum enclosure is optional.

- **BLDC Motor**

Brushless DC motor with Class F insulation, designed for long-term operation.

- **Position Indicator**

All models are equipped with a mechanical position indicator featuring green and red LEDs to show the valve's status.

- **Hand wheel: emergency use.**

- **Working condition:**

Ambient temperature: -10°C to $+60^{\circ}\text{C}$

The Humidity: 30%~95%.

3. Optional function

- Failsafe / Backup Power (one of the two for emergency use)
 - Backup power: In the event of a power failure, users can immediately operate the valves.
 - Failsafe: The valves will automatically open or close to the preset position.
- Heater
Increases the internal temperature of the actuator to prevent damage from condensation or moisture. Rated at 24V/5W.
- Modbus ASCII with RS-485 (EIA-485)
- Controls 2 to 30 actuators in sync or out of sync via RS-485 without the need for I/O adapters, helping to avoid electromagnetic interference.

4. Product Features

- a. Overload protection: When the loading torque or current exceeds the specified limits, the electric actuator will cease operation. EX. if the valve is stuck and unable to operate within a few seconds, the power will be shut down to prevent motor burnout.
- b. Electromagnetic compatibility: Ensure compliance with the EMC certificate.
- c. Double limit position:
 - (1) Motor detection: ensure the valves move to their precise positions.
 - (2) Mechanical Limit: Equipped with a restricted baffle and an adjustable travel screw.
- d. Speed control: When valve travel is less than 10%, the speed will decrease to adjust the position precisely.
- e. Self-lock mechanism: ensures that the motor and gear will lock when the valve reaches the indicated position.
- f. Valve travel control: Precise Adjustment of Valve Travel Settings.
- g. The parameter modification can be renewed through the software.

PRO UNI-D CO., LTD.

Failsafe / Backup Power

For emergency power supply

Product Introduction

Our product offers two optional battery functions:

1. Failsafe

The failsafe feature uses a battery system different from the traditional mechanical spring-return type. In the event of a power failure, it operates the valve to a pre-set position as specified by the customer.

2. Backup Power

Similar to the failsafe function, the backup power feature allows customers to operate the valve during a power failure. However, unlike the failsafe, the valve position is not pre-set at the factory but can be controlled directly by the customer.

Important Notes:

- These two functions cannot be selected together because they use different circuit designs.
- Available Voltage Options:
 - AC 100~240V
 - DC 24V
- Modular Design: Easy to replace.

Cautions:

- The battery automatically charges when the voltage drops below DC 20.4V.
- For first-time use, the battery must be charged for at least 13 hours.
- If the battery is charged for 13 hours and the voltage remains below DC 18V, it should be replaced with a new one.



UM1-N~UM2-N series



UM3-N~UM12-N series

PRO UNI-D CO., LTD.

MODULATING FOR SMART TYPE

Product Feature

The function is available for customers to adjust the open angle of the valve that regulates liquid flow.

- For smart type, we offer modulating function for UM1-N-D~UM12-N-D.
- The input signal can control the valve precisely.
- The BLDC motor frequently operates without overheating.
- 75% duty cycle.
- LED light indicator.
- Over-loaded protection.
- Voltage free signal feedback.

Electrical Input Indication

- Power supply:
Single-phase power AC110V~240V 50/60Hz, DC24V.
- Input Signal:
 - 4~20mA (Standard)
 - 2~10VDC (optional)
 - 0~10VDC (optional)
- Output Signal:
 - 4~20mA (Standard)
 - 2~10VDC (optional)
 - 0~10VDC (optional)



PRO UNI-D CO., LTD.

Heater (including thermal protector)

1. The heater raises the internal temperature of the electric actuator, keeping it warm and dry to prevent damage caused by condensation or moisture.
2. It also functions as a thermal protector.
3. If the heater's temperature exceeds the expected range, the thermal protector activates to lower the temperature.



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Modbus ASCII Protocol Connection

Product Feature

1. Supports the control of 2 to 30 actuators, either synchronized or unsynchronized, via Modbus ASCII with RS-485 (as shown in the photo below).



2. Eliminates the need for I/O adapters, reducing wiring costs.
3. Provides protection against electromagnetic interference.

Example for connection:

