

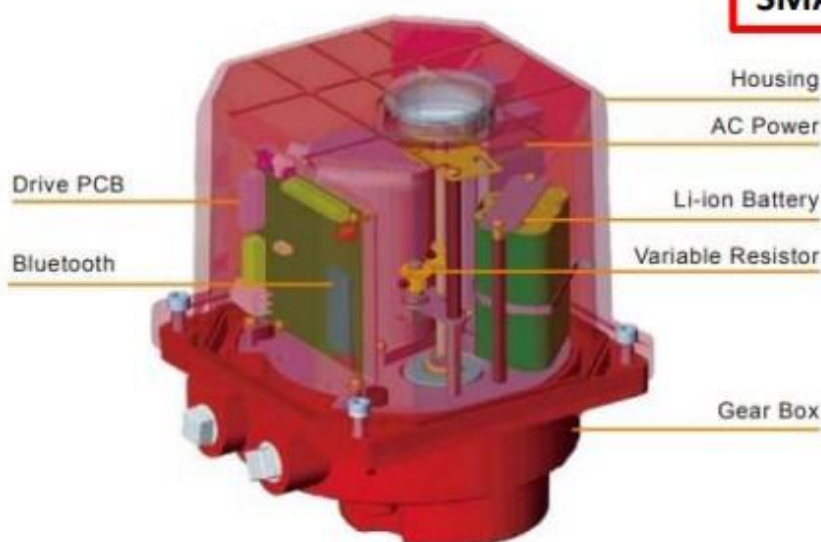
# Product Features

## SMART TYPE

UM1-N~UM2-N



UM3-N~UM6-N



## Modular Design

- Plug & Play Kit easy to have additional functions when need
- AC Power Modular, Failsafe Modular and Bluetooth Modular

## Bluetooth

- Available operate valve and monitor the status of actuator directly
- 10 records of abnormal status for maintenance

## Li-ion Battery

(two function optional)

- Failsafe function
- Backup power

## Brushless DC Motor

- High duty cycle performance

## LED Light Indicator

- Easy to know the status of the position

## High Duty Cycle

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

## Multi-Voltage

- AC110V~AC220V, DC24V, AC24V

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

- It's available to control 2~30pcs actuators through Modbus ASCII with RS-485 in sync or out of sync.
- No need to connect to I/O adapters.
- It's able 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)	●	●
	Bluetooth (Optional)	●	●
Rated Torque	75%	●	●
Duty Cycle	30%~75%	●	●
Fail-Safe	$\geq 1$ 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)	●	●
Certifications Approval	CSA139-13	●	●
Voltage free signal feedback	Max 0.13 (A) (standard)	●	●
Heater	5W (Optional)	●	●

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

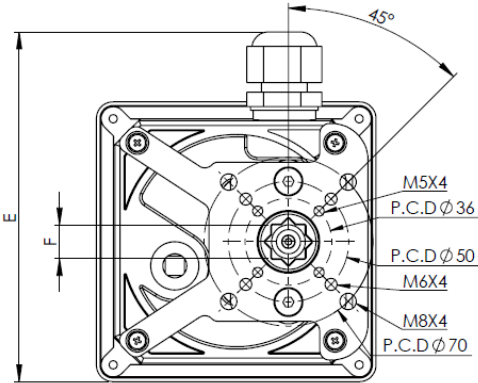
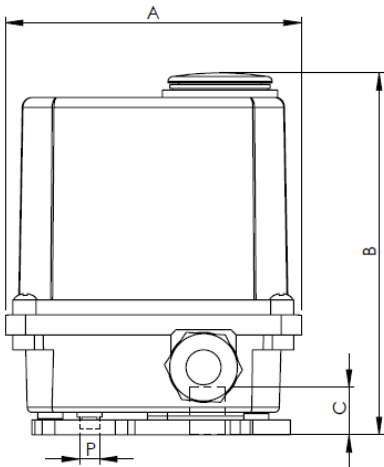
Remark 2: Not available for vacuum, corrosion, flammable and explosion environment.

## Features

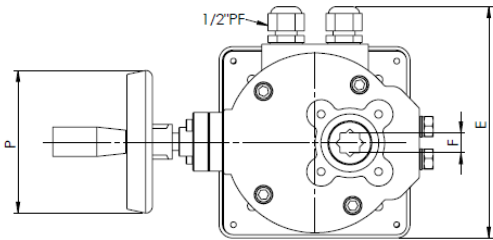
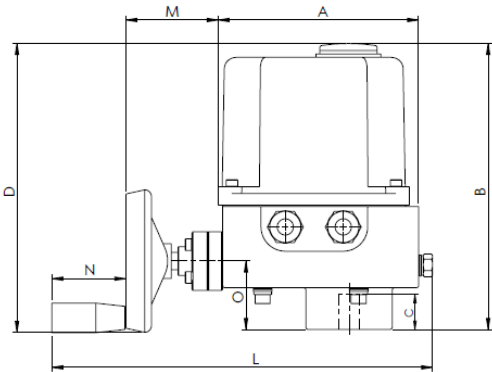
- Brushless DC motor that available for long time operating.
- Motor insulation Class F
- Electromagnetic Compatibility: match EMC certificate.
- For emergency use, the actuator is with manual override (UM1-N~UM3-N) or hand wheel (UM3-1-N~UM-6-N).
- Fieldbus mode are acceptable, such as Modbus-ASC II .
- Current status record: Detect the current status for maintenance, when the current over 100% torque, the current will be recorded in program (Bluetooth function.)
- Protect device: Over-loaded, double limit position, valve stuck, mechanical lock and speed control.
- Short speed time for option
- Ambient temperature:  $-10 \leq T_a \leq 60^{\circ}\text{C}$  (Humidity  $< 90\%$   $25^{\circ}\text{C}$ );  $-20 \leq T_a \leq 70^{\circ}\text{C}$  (Optional)
- Failsafe function is made by modular design, easily for replacement (UM1-N~UM2-N needs external box for fail-safe function.)
- The standard duty cycle is S2 15minutes, for other duty cycles please contact with us.

Specification and outline drawing:

UM1-N~UM2-N



UM3-N~UM6-N



Model	Rated Torque (N.m)	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	116	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	173	244	30	250	203	17	330	85	65	59	123
UM3-1-N	115	65	60	8											
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											

# **Simple Instruction of N series actuator**

## **1. Product Introduction**

90 degree rotary electric actuator (UM1-N~UM6-N series) adheres to specification of ISO5211. The rated torque ranges from 6Nm to 456Nm. All types of electric actuators are installed with mechanical position indicator with green and red LED light. It can be wired to the control box, and it will show the opening position via indicator signal.

## **2. Product Characteristics**

- Modular Design
  - Plug & Play Kit easy to have additional functions when need
  - AC Power Modular, Failsafe Modular and Bluetooth Modular
- Multi-Voltage  
AC110~220V, DC24V
- Voltage free signal feedback is standard  
Feedback signal for valve status (open or close), AC260V/100mA.
- Enclosure:  
IP67 waterproof and dustproof nylon enclosure that prevent damage from heat, acid, and alkali. Aluminum enclosure is optional.
- BLDC Motor  
Brushless DC motor, insulation Class F, and available for long time operating.
- Position Indicator  
All models have a mechanical position indicator and green and red LED to show the position of the valve.
- Manual override device: UM1-N~UM2-N.
- Hand wheel: UM3-N~UM6-N.
- Flange/Mounting Type (ISO5211)  
UM1-N~UM6-N series provides direct mounting on ISO 5211 valves.
- Working condition:  
Ambient temperature: -10°C ~+60°C  
The Humidity: 30%~95%.

### 3. Optional function

- Bluetooth

It can operate control valve at site and monitor the status (10 records of abnormal status for maintenance and examination reference.)

- Modulating 75% duty cycle

It's available for customer to control the travel (open/close) of valve by input voltage 0~10VDC or 2~10VDC, and current (4~20mA) signal.

- Failsafe / Backup power (one of them)

Battery type, when power fail, the function operates the valve to the indicated position (open or close):

a. Failsafe: preset the position in factory.

b. Backup power: users operate the actuators to the position of valve they want.

- Heater

Make the actuator inside temperature higher and dryer to prevent the damage from moisture, 24V/5W.

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

Supports series connection 2~30pcs that can operate all electric actuators in sync or out of sync. This function is able to avoid electromagnetic interference and no need to connect I/O adopters.

#### **4. Product Features**

- a. Manual override: When power failure, rotate the override (by 8mm wrench) to turn on/off function (for item no. UM1-N~UM3-N.)
- b. Current status record: Detect the current status for maintenance, when the current over 100% torque, the current will be recorded in program (Bluetooth function.)
- c. Over-loaded protection: When the loading torque or current overload, the electric actuator will be stopped operating.
- d. Electromagnetic compatibility: match EMC certificate.
- e. Double limit position:
  - (a) Motor detecting: make the valve travel position precisely.
  - (b) Mechanical limit: with restricted baffle and adjustable travel screw
- f. Valve stuck protection: provide 1.3 times of valve torque, when valves unable to operate in few seconds, the power will be shut down.
- g. Speed control: When valve travel less than 10%, the speed will be slowed down to adjust position precisely.
- h. Mechanical lock: Motor and gear will be locked when the valve arrive the indicate position.
- i. Valve travel control: Precise valve travel setting.
- j. The parameter modification can be renewed through the software.

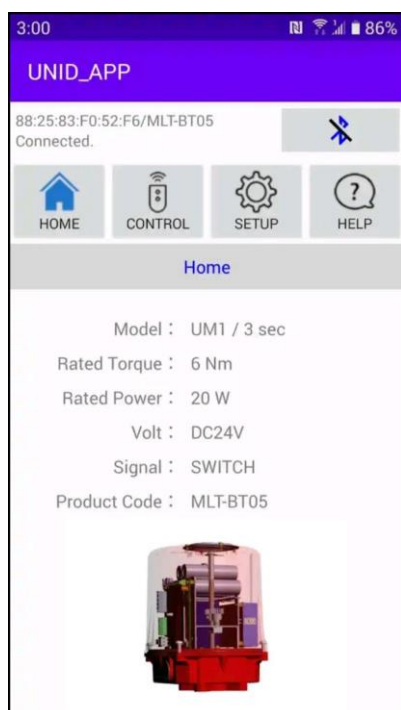


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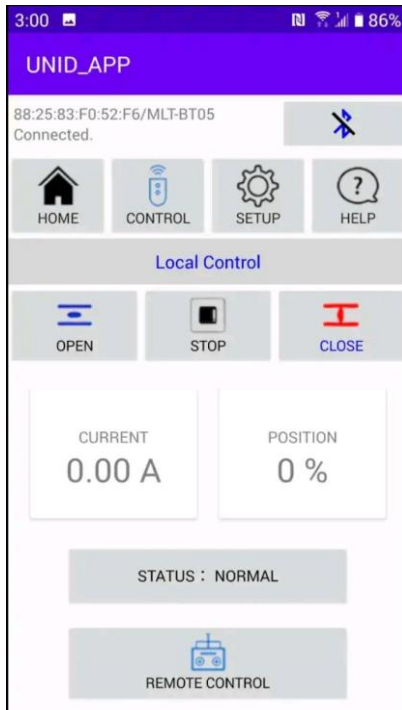
## BLUETOOTH FOR SMART TYPE

### Product Feature

1. Plug & Play kit design, the Bluetooth function was designed in a small PCB that easy to install.
2. Current status record: detect the current status for maintenance, when the current over 100% torque, the current will be recorded in program.
3. Protection device: over load, double limit position, valve stuck, mechanical lock, speed control.
4. Except PLC, users can control the valve open and close and monitor the status of actuator through cellphone at the site.
5. With PRO UNI-D CO., LTD. APPs that have 10 records of abnormal status for maintenance reference.



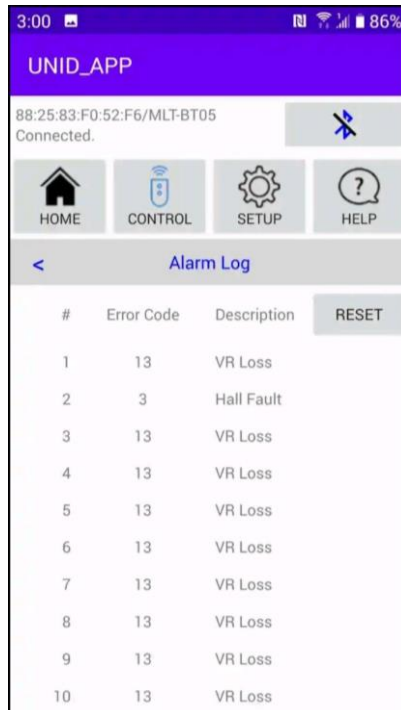
Actuator information



Operate valve open/close

Current status record

Valve position



10 abnormal latest records

# PRO UNI-D CO., LTD.

## Failsafe / Backup Power

For emergency power supply

### Product introduction

There are two optional functions for battery using:

#### 1. Failsafe

Our failsafe is battery type that different from traditional mechanical spring return type. When power fail, the function is to operate the valve to the indicated position where requested by customers previously.

#### 2. Backup power

This function is same as failsafe above, the difference is when power fail, customers can operate the valve to the position directly, not preset in factory before shipment.

- ✂ The above two functions can't be selected together, because the circuits are different.
- ✂ Available voltage:  
AC110~220V, DC24V/AC24V.
- ✂ Modular design, it's easy to replace.

### Cautions:

- ✂ Battery will be auto-charged when the voltage lower than DC20.4V.
- ✂ For first time use, the battery need to be charged at least 13 hours.
- ✂ If battery charged 13 hours and the voltage still less than DC18V, it needs to change a new one.



UM1-N~UM2-N series



UM3-N~UM6-N series



# PRO UNI-D CO., LTD.

## MODULATING FOR SMART TYPE

### Product Feature

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

- For smart type, we offer modulating function for UM1-N~UM6-N.
- The output signal can be controlled the tolerance within angle 3 degree.
- BLDC motor, frequently operating without over heat.
- 75% duty cycle.
- Over-loaded protection.
- LED light indicator.
- Voltage free signal feedback is standard.

### 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)

### Product introduction

1. Heater can make inside temperature of electric actuator higher and dryer to prevent from the damage to the electric actuator caused by the frozen of lube or the moisture.
  2. It also have the function of thermal protector.
  3. When the temperature of heater is over the maximum, the thermal protector will turn on to lower the temperature.
- ※ It's recommended not to install the heater when the temperature is over 35°C/95°F.

